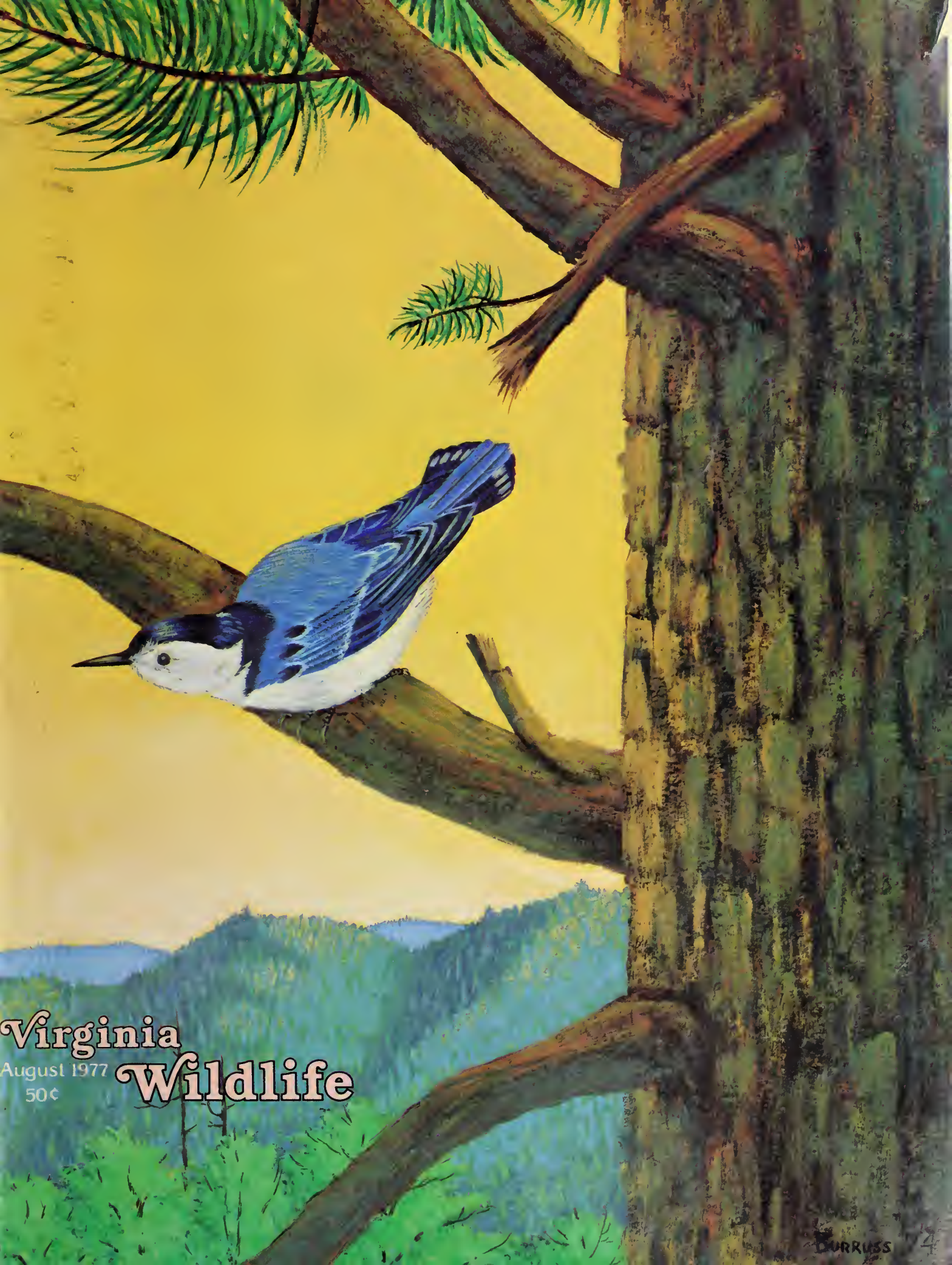


# Virginia Wildlife

August 1977
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Virginia Wildlife

August, Volume XXXVIII/No. 8

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

COMMONWEALTH OF VIRGINIA
MILLS E. GODWIN, JR., GOVERNOR

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COVER: Nuthatch, by Larry Burrus, Crozet, Va.

# Editorial

## WOLVES OUTRATE HUNTERS

Many of the foes of hunters and hunting have recently rallied to the defense of the wolf. Although wolves are important members of the wildlife community, they stand accused of the same conduct hunters are condemned for by these poeple — being a predator. They can somehow accept the wolf as a predator, even fight for protection to increase its numbers, while they cannot equate man with that same role. As a matter of fact, the relationship is so close that in parts of Alaska, man and wolf now compete for the same game.

Wild game meat represents a considerable resource in today's world faced with drought and food shortages. Just the harvest of deer meat in Virginia was estimated at 3,172,150 pounds last season with a total retail value of $3,806,580. This does not include the doves, ducks, rabbits, squirrels, fish and other assorted small game which finds its way into the pot each fall.

Another way to look at wild meat in our diet is to consider the acreage of land that would have to be converted from woodland to cultivated fields to produce the equivalent amount of protein. Often game is a product of land with no commercial value or land producing another crop such as trees. If we flatly quit taking game for the pot, agriculture would have to take up the slack with much potentially edible wild meat not utilized.

Man has superficially insulated himself from the basic aspects of his predatory ways by hiring his killing done for him. Except for some rural families, the hunter or fisherman is the only member of modern society that is directly involved in killing the meat that he eats. This does not make those who do not hunt or fish any the less predators. The wolf and man both eat meat. Both are predators. Why should one be exonerated and one condemned? Let some anti-hunter explain it to you. —HLG

# Letters

### CHESTNUT FANS

I am quite interested in your article, Resurrecting the Chestnut. Crosses of the American and Chinese chestnut trees were conducted at the Government Farm at Beltsville, Maryland and, as I recall the pollen for crossing was taken from two American chestnut trees located in or near LaPlatta, Maryland

I have a number of these crosses, bearing chestnuts at Gales Point, Northern Neck, Westmoreland County Virginia.

*L. C. Petherbridge*
Hague

Paul H. Bratton, Jr's article "Resurrecting the Chestnut" in the July issue was of particular interest to me. I am one of the privileged people who gathered chestnuts by the pail full after a good frost when I was a little girl.

Since the Virginia Division of Forestry is searching for old original chestnut trees, I would suggest they check the huge old tree in front of the Cherrydale Library in Arlington, Virginia.

*Mrs. A. R. Lowstuter*
Arlington

### APPLAUSE

We are filled with joy after reading "Know The Great Outdoors," by Gill Emerson (July, 1977 issue).

Right now is a good time to rededicate ourselves "to the conservation of Virginia Wildlife and Related Natural Resources."

Thanks for a beautiful magazine.

*Ralph E. Frost*
Hampton

### LEFT OUT

We enjoy the photography in *Virginia Wildlife* but have one complaint. How about more articles about Southwestern Virginia, "the Mountain Empire?" We think it is the most beautiful part of your lovely state.

*Norma Beckes*
Girard, Ohio

### MINK FLY?

This is the first time I have had occasion to address your publication. Let me compliment you on its fine quality. We find it well done and interesting to all members of the family.

Of personal interest is the art work of Spike Knuth since most of my life was spent in Wisconsin prior to moving to Virginia in 1965.

Some time ago (2 to 3 years) I clipped an article from a magazine entitled, "The Mink Thing." It described a fly made out of mink fur of the nymph/wet fly type. I believe it was published in your magazine, but I could be wrong. Until now I did not have the mink fur to tie with. Now I can't find the article and was wondering if you could supply me with a copy of the page describing the fly?

*Jim Bolton*
Alexandria

*We show no record of ever having run an article entitled "The Mink Thing." Perhaps our readers could help you remember.*
*—Ed. Ass't*

### C.B. STATIC

I would like to submit that the primary dimension introduced by "CB" is one which again illustrates the lack of resourcefulness of the modern "hunter." In other words, CB radio is another playtoy in the inventory of those hunters who have never learned what hunting is all about.

In his quest to save "time, gas, and money," he has never pitched a tent on a lonely patch of autumn mountain, improvised a meal, and settled into the feathers to await the first calls of dawn and the excitement of tracking through the early morning woods, eager in anticipation of sighting--perhaps bagging--game. Or the beauty of a quiet stream in Spring with the aroma of a fresh fish frying in a skillet while wondering if the catch might be repeated for a son, a nephew, or. . .anyone.

Not a bad sport, this hunting, and with small expenditure of gas, money, and--relatively speaking--time.

*W. Denman Zirkle*
Edinburg

### CORRECTION PLEASE

I have just read the article about Lake Orange in the May issue of *Virginia Wildlife*.

I would like to make one important correction. A concession that provides bait, tackle, boats and electric motors is available at Lake Orange and has been operated since the spring of 1975 by Mr. and Mrs. Julius Coppa.

*Jim McHugh*

# THE CARDINAL FAMILY

By C. P. HUFF
Photograph by Jerry Frutkoff

It all started just outside our double kitchen windows where our bird feeder, normally the haunt of sparrows and starlings, was now sparkling with the reds and blues of cardinals and bluejays. As usual, the bluejays announced their appearance with enough chatter to frighten away any rivals and, unfortunately, wasted about as much grain as they ate. On this particular morning, I happened to notice a pair of cardinals in a nearby bush awaiting their turn at the feeder. This brought color into a bleak, dreary day in April.

The Cardinals, the female with her tinge of red about the body and her orange neck, along with the male with his glamorous red body and neat red tuft atop the head, had begun to visit the feeder at intervals during the morning and it became apparent to me that somewhere nearby they were nesting.

Toward mid-afternoon, I spotted the nest near our front porch and on the outer edge of a thorn-type bush, that we call our sticker bush. The female cardinal was on the nest and my first thought was to try and photograph the operation with a motion or still camera. Unfortunately, an obstruction hindered my doing this and the nervous bird put an immediate stop to the camera business.

We had never been able to observe a Cardinal nest so closely before. The female stuck to the nest during the chilly weather and I observed the male bringing in the food and feeding her, occasionally sitting on the nest when she went in search of food and water. This continued for a week before I was able to determine that there were indeed two eggs in the nest. Obviously, the nest had been there for some time before I found it, for less than two weeks had passed when I noticed a little head with an open beak protruding up from the small nest. From this point on, I began checking on the birds more frequently to see if they could possibly keep up the constant pace. As it later became apparent, the work had hardly begun. Now the male was increasing his visits to the mother and the little ones. Usually, the mother was fed first, then one of the little ones. He then cleaned out the nest and hauled the droppings away. By this time the female was not seated as close to the nest as before and instead was elevated to take care of the crowded home. The male, when called upon to relieve the mother, stood by the side of the nest and chirped his assurance of protection for the brood until the mother returned. He then returned to the job of finding more food. The birds exhibited a tireless devotion in this care of their off-spring.

During the coming week, the little birds feathered out in a dusty gray and remained deep in the nest. The weather had begun to break slightly and a few rays of sun drifted in between white cumulus clouds to help warm up the temperature, that at that time was hovering in the thirties and forties. When the temperature hit into the high fifties, the little birds no longer needed to huddle close to the nest and they then began to venture out about the edge. From what I was able to determine, they had completely feathered out. I was certain that it wouldn't be too long before they would try out the other branches near their nest. The female bird seemed to sit nearby on other branches and chirp consistently as she moved from branch to branch, coaxing the little ones out of the padded nest. I thought that she was watching for our neighbor's cat that had previously frequented the front porch until I was able to frighten it away with the hose. However, the more I watched the operation, the clearer it became that she had a scheme in mind to get her little ones out of the nest.

The following morning during breakfast, I heard frantic chirping from both the male and the female. I ran to the window to check out what I was certain was a cat disturbing them. Instead, one little bird had not only moved about the bush, but had flown to another white-flowered bush nearby. The race was on. By this time, both little birds had flown the coop and they flew around the house, from bush to shrub to hemlock. The male bird was looking after one and the female was in another direction keeping up with the other. It brought to mind a frightened human chasing a small child about to enter a street or highway. The little birds made two or more rounds of our home during this first day out of the nest. By the conclusion, they had visited every bush and shrub on the place-- even the box woods where they were able to land on top. Never during this race was the parent out of sight of the little one, nor did he stop the reassuring chatter.

Little cardinals seem to be much stronger upon leaving the nest than most birds I have seen in the past. Not once did the small fellows touch the ground, as do many robins and other large birds. This I particularly enjoyed, as cats prey on small birds that leave the nest too early.

I followed this round-the-house progress for three days. Gradually, the circle widened, now taking in neighbor's trees and shrubs. So, I lost track of the little birds and am still wondering how they are spending their time. Although I have noticed a few other cardinals passing by, I don't believe they are part of our nesting family. In any event, the hectic moments are now past and May has arrived bringing with it bugs and worms to help sustain the birds. I eagerly invite another family of cardinals to make use of our yard for their nesting activities.

# FIRE ECOLOGY AT BIG MEADOWS

By RALPH A. OTTO, JOHN C. NIESS & DR. PETER L. DALBY

Fire ecology is the study of the effects and interactions of fire upon plants, animals, and their habitats. Biologists study accidental and natural fires not only to determine how best to control them and learn their effects on wildlife, but also to investigate the use of fire as a potential management tool.

Fire has been a management tool for centuries. In America, Indians used fire to clear agricultural lands and hunting areas well before the advent of white colonists. Colonial Americans also used fire to clear agricultural land, and burned forest groves in the autumn to facilitate nut-gathering. Lightening has started fires since time immemorial. These natural fires play an important role in natural plant and animal communities. To gain a better understanding of this role, let's examine ways a fire may effect an area. First, remember that we are not talking about major holocausts, where fire literally devastates a huge area in a matter of several days. Although Mother Nature doubtless is responsible for some of these ravaging conflagrations during her temperamental periods, historical and present evidence indicates that when left to her own means, she sweeps the broom of destruction with surprising gentleness. But what good are forest fires?

1. Natural fires tend to clear the forest floor by burning much of the accumulated debris. If the forest floor becomes too congested with leaf litter and other debris, then the potential for a catastrophic fire increases. When man attempts to eliminate fire (even in areas where there is no danger to people), we find that once a fire does obtain a toehold, it quickly becomes an unmanageable and extremely deadly wildfire. Frequent fires (every 5-15 years, more or less, depending on the region) burn accumulating tinder before a real threat is created.

2. Nutrients locked in dead plant material can be released to the prairie or forest soil by burning accumulated debris; in this way, nutrients are once again incorporated into the living community. In effect, the soil is receiving a dose of fertilizer. Often everything from grasses to trees grows faster as a result; and berries and other fruits are larger and more numerous, if not at once then in subsequent growing seasons, thus creating a feast for many game and non-game species for several years until productivity decreases. Tree plantation owners in the Southeast recognize this fact and often burn at given intervals to increase timber production, reduce competition from "weedy," nonpreferred trees, and increase certain game animals. Cranberry growers in the Northeast burn their bogs to maintain high production. In other areas of the country, pastures are periodically burned to increase productivity and nutrition levels, and reduce unwanted plant species.

3. Some species such as red squirrel, marten, fisher and many warblers require relatively undisturbed stands of timber. But even here, at little risk to the animal species, light fires over the forest floor could save the virgin forest from attaining dangerous fuel accumulations. However, not all species can live in a virgin forest. Some of the larger mammals that increase in numbers following a fire are white-tailed deer, elk, cougar, coyote, black bear, beaver, and rabbits. Among birds, there are turkey, bobwhite quail, prairie chicken, ruffed grouse, and others. These species do well if fire is utilized to produce forest openings, clear off brush and litter, and maintain food and cover plants in correct proportions. Many animals utilize a combination of habitats, such as forest and field, or forest and stream. These animals often bed down or nest in one habitat, and forage in another. Thus, fire can maintain a diverse mixture of plants and animals, in many cases actually stimulating growth of these populations.

4. Just as there exist plants and animals which are associated together in undisturbed settings, there are other plants and animals which appear to be highly adapted to, and in fact solely dependent upon, fire for survival. The famous statueque sequoias of our West do

*Looking from the Byrd Visitor Center onto Big Meadows, one can observe the burned test plots situated in mowed and unmowed areas in several vegetation types.*

*Observing a portion of Big Meadows where mowed and unmowed sections adjoin.*

not reproduce readily unless their seeds drop on soil free from litter. White pine, Virginia pine, and some other conifers of this region act similarly. Cones of other pines incarcerate their seeds until the cones' resin, destroyed by fire, allows the cones to open and spill their sylvan treasures upon the earth. New Jersey pine barrens and the southeastern coastal belts of pine are a result of natural fires; otherwise, hardwoods would quickly dominate the scene.

5. Certain disease organisms of plants and animals which live at least part of their cycle directly or indirectly in the accumulated litter, or on an intermediate host, can be destroyed or reduced by utilizing fire as a control measure. Prime examples of pests which are susceptible to this type of control are chiggers and ticks. And with fewer pests there is less chance of human contact with the disease pathogens which these pests often transmit, such as Rocky Mountain Spotted Fever.

Big Meadows, Shenandoah National Park, is an example of an area in which fire may have played an ecological role in the past. Before this section of the Blue Ridge Mountains became a national park in 1935, Big Meadows was maintained as a field by a variety of natural and man-related forces. Since 1935, the forest surrounding Big Meadows has reestablished itself from previous lumbering and clearing activities, and the wide, clear expanse of meadow (150-175 acres) now offers a spectacular contrast to the surrounding forested ridges.

To maintain the open-field quality of Big Meadows, park personnel mow the meadow each fall. Currently, two separate research teams are trying to determine whether such mowing is equivalent to other ecological forces (particularly fire) or whether it is giving rise to an artificial community.

To answer some of the questions about burning, two groups of researchers, one each from VPI & SU and Madison College, are conducting investigations on Big Meadows. Dr. Dean Cocking of Madison College is heading up a team which is studying the effects of mowing and burning on the plant community of the meadow. Basically, they will be recording changes in plant species, productivity, surface litter, and nutrient cycling between the various mowed, unmowed, and burned plots. They will be watching rather closely the fate of several species of plant, such as Canadian burnet, gray birch and wood lilies, that are unique to Big Meadows.

The other group of researchers, funded by the National Park Service, Tall Timbers Research, Inc., and the Shenandoah Natural History Association, is investigating the effects of mowing and burning on the animal community of Big Meadows, under the leadership of Dr. Peter Dalby of VPI & SU.

This project is examining as much as possible the effect of fire on the litter and soil invertebrates. These animals are in adequate numbers for statistical analyses later; secondly, they constitute a major food supply for animals higher on the food chain. Several species of amphibians and reptiles not found in the neighboring forest inhabit Big Meadows. Over a dozen species of meadow-inhabting birds nest there. Many other woodland species, such as the woodcock and robin nest in the forest but often forage in Big Meadows. As for the small mammals, oddly enough, there are very few rodents inhabiting the field. One species in particular, the meadow vole, is important in the diet of some hawks and owls. Perhaps a change in the plant community due to fire might lead to the reestablishment of this species and the predators to which it falls prey. Rabbits, woodchucks, and deer frequent Big Meadows also, but the relatively small size of the study plots makes it difficult to include many observations. For these species it is necessary to glean from other writings what fire ecology researchers have found in different areas of the United States, and then extrapolate that information to apply to Big Meadows.

# Conservationgram

GAME COMMISSION WILDLIFE MANAGEMENT AREA NAMED FOR EXECUTIVE DIRECTOR. The recently acquired Rappahannock Wildlife Management Area in Fauquier County was re-named the Chester F. Phelps Wildlife Management Area in a ceremony on Saturday, July 30, 1977. The over four-thousand-acre area runs for some six miles along the Rappahannock River south of Kelley's Ford. About 80 percent of it is in timber with the remaining land in crops and grass. The WMA will offer hunting and fishing in season as well as access to the river for canoes and space for hunting dog field trials. At the dedication ceremony, Lt. Governor John Dalton made the principle address and praised Mr. Phelps for his long list of accomplishments on behalf of the sportsmen and wildlife of Virginia. The visitors enjoyed a catered luncheon, toured the early 19th Century farmhouse, and watched shooting demonstrations. The Chester F. Phelps Wildlife Management Area is located in Fauquier County, just North of Summerduck.

NEW PROPERTY ACQUIRED IN ISLE OF WIGHT COUNTY. James W. Engle, Chief of the Game Commission's Lands and Engineering Division announced recently that the Commission has acquired title to a 1,111-acre parcel of land in Isle of Wight County. The area is commonly known as Ragged Island and is located just south of the James River Bridge and almost directly across the river from the Newport News shipyards. Ragged Island has an extensive river shoreline, some of which features small sand beaches. Much of the area is marshland with the high ground covered in dense stands of pine with a very thick understory. Engle said that, "an additional 364 acres just adjacent to that which has just been purchased will be added at a later date, thus bringing the total to 1475 acres." Engle also stated that "the entire acreage in this purchase will be open to waterfowl and deer hunting during the 1977-78 hunting. Currently there is little access and no parking at the site. The area will be of interest to bird watchers, as it is traditionally an area inhabited in winter by the now endangered canvasback duck as well as numerous other species of shore and water birds.

TURKEY STAMP CONTEST ANNOUNCED. Tom Rodgers, Executive Vice-President of the 30,000 member National Wild Turkey Federation, Inc. has announced the beginning of the second annual Wild Turkey Stamp Contest. The contest is open to all wildlife artists residing in the United States.

Subject for the 1978 contest will be the Rio Grande Turkey (*Meleagris gallopavo intermedia*). During the 1976 contest the Florida Turkey was featured and for the 1977 contest the subject was the Eastern Wild Turkey.

A total of 42 entries competed during last year's contest in which artist Chuck Ripper received $15,000 for his winning entry. Artists interested in competing in the 1978 contest are reminded that entries are now being accepted and that the deadline for the contest is midnight February 1, 1978. Address for the contest is Wild Turkey Stamp, P.O. Box 467, Edgefield, South Carolina 29824.

PENNSYLVANIA PROGRAM ASSAILS SLOB HUNTERS. The Pennsylvania Game Commission has launched a program entitled "SPORT" in an effort to "weed out those hunters who are bringing disrespect to the hunting fraternity." SPORT stands for "Sportsmen Policing Our Ranks Together" and under the new program, the Pennsylvania Game Commission plans to encourage sportsmen and women in the Keystone State to bring heavy pressure against the unethical and disrespectful conduct of some hunters.

The "slob" hunters are the poachers, defilers of landscapes, enemies of landowners, wanton killers, arrogant boors who make their own rules and alarm the non-hunting citizen and offend the public's sense of decency, according to the Pennsylvania Commission's definition of the project.

# Native Trout:

# Little Green Leprechaun

## Of The Blue Ridge

By HAROLD E. SKINNER, Jr.

The stream was large for one being so high in the mountains. It ladled from pool to pool in an eternal race to the sea, while ever so slowly gouging a trough from the solid greenstone of Virginia's Blue Ridge Mountains.

I peered cautiously and painfully from my awkward crouch behind one of the titanic greenstone boulders. The pool was narrow, deep, and transparent, but no larger than my sleeping bag left spread in camp on the ridge above. I could see no sign of life in the sterilized water, except a couple of water striders which delicately twitched about on the surface tension. I slowly pulled a few coils of line from the reel, and while keeping both the rod and my silhouette low, made a false cast over the pool and allowed the line with its long, tapered filament of leader to settle upon the rippled surface. The Size No. 14 Wooly Worm made a slight dimple as it settled near the turbulent head of the pool.

What happened next made both a success and a fool or me in about a second. A six-inch emerald-green dynamo catapulted from beneath a water-worn rock and snatched up the hapless Wooly Worm before it sank an inch. I could not believe my eyes! My first cast had brought a strike from that mystical, elfin jewel-with-fins that had been haunting my restless nights for so long. The little green leprechaun of wild mountain streams had suddenly taken a bold step toward the tangible. No longer was he an elusive wisp of fantasy in my dreams; he existed, vibrant and living at the end of my thin strand of leader.

"Strike you fool!" I suddenly thought. "Set the hook now!"

I lifted my fiberglass wand, but instead of the magical feel of a solid hook-up, I was rewarded only by a limp, slack line. With a face as long as the previous morning's hike, I dragged the little fly back across the surface. Its tiny barbed wire hook curved beneath it like the tail of a whimpering dog.

I had been fooled by an ancient denizen of the Blue Ridge streams, the native brook trout. Generations of these little beauties have finned in the pools of Blue Ridge streams for thousands of years. Neither they nor their ancestors have ever felt the still waters of the hatchery. They fought the cold, clear currents of the streams before man drank from them, and they have accordingly evolved into a tough, spirited breed. Since competition for food runs high in the clear-water pools, the brook trout is not a large fish in the Blue Ridge. A 12-incher is a prize to be coveted, and 6 or 7 inches is more the norm. But what they lack in size is made up for in their striking beauty and spirit.

After a violent series of disgusting oaths, which I would be too embarassed to repeat in mixed company, I sat down upon the cool stone and rested my back against the boulder. A cupped handful of cold stream water soothed my nerves a bit and allowed me to clearly devise a new battle strategy. The trout had mistaken the Wooly Worm for food once and would not likely do so again, but if his majesty had not felt the sting of the hook, possibly another offering would tempt him. I fished through my fly box and soon replaced the Wooly Worm with a black ant imitation, again size 14. A repetition of

*Small streams cascading into deeper pools offer good brook trout habitat.*

the first presentation failed to produce a strike, as did the second, third, and fourth attempts.

By the fifth cast my gaze had carelessly wandered to the next promising pool, and I was imagining the moss-backed monsters it must harbor. A sharp tug jerked my attention back to the pool at hand and focused it on the pleasing bend in my fly rod. The trout had managed to hook itself with the vigor of its strike, and immediately began a frantic, darting, zig-zagging dance about the miniature pool, trying its best to reach the safety of a number of cracks and crevices. Each time the diminutive green streak dashed toward one of these dark little sanctuaries, I would gently coax it away with a bit of pressure from my flexible rod tip. Within less than a minute its energy exhausted, and it lay gasping on a flat, wet stone at streamside.

The green on the trout's back, fading from dark on top to very pale on the lower sides, was etched with a worm-like pattern and small, red, round spots. The stomach was a very light, earthy orange, and the throat and fins were painted milk-white. The bright blood-red edging on the fins completed the scheme for a beautiful rainbow of colors that contrasted starkly with the dull rock and crystalline water of the stream.

Virginia's native brook trout had enchanted me at our first meeting. I wanted to examine my first specimen just as a little boy would examine his first catch, but the brookie was two inches under the legal size limit established by Shenandoah National Park, so I carefully removed the hook from the corner of its mouth and slipped the fish back into the pool. It was gone; it vanished as if it had never been there.

Brothers and sisters of this first fish inhabited all the pools along the stream. By noon I had lost count of the brook trout I had caught. They were brilliantly colored gems ranging from tiny four-inchers, to a husky nine-inch prize I kept as an addition to lunch. I had gone through two size 14 Black Ants, which seemed to be the fly of the day, and I felt just as bedraggled as those retired, tattered flies.

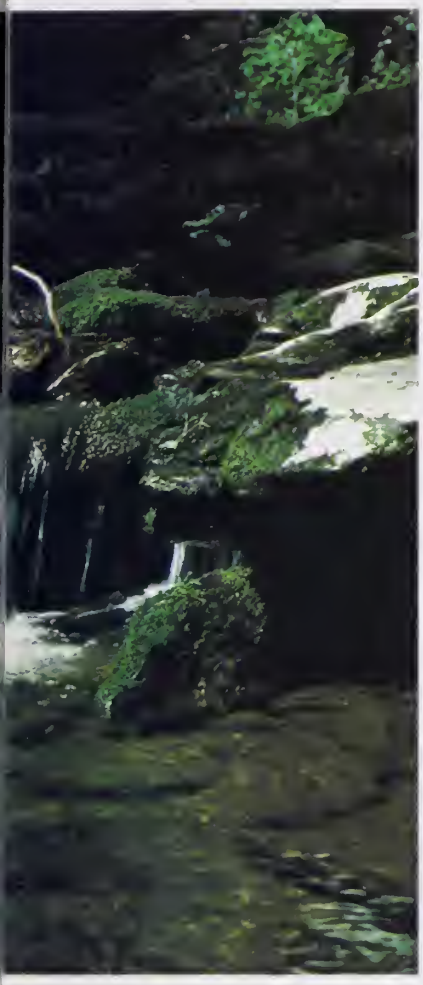
*A fisherman finds more than just fish in the Blue Ridge mountains.*

After climbing the steep bank, I trudged back up to camp where my friend, Brad Cook, sat contemplating over bubbles rising from the bottom of a pot of water that simmered on a small backpacking stove. He eyed me with a "possum grin" which signaled that he, too, had scored on the brook trout.

We discussed the morning adventure over steaming cups of tea. Brad had fared as well as I, while stalking the pools with a size 12 Black Gnat. He had also kept one fish which proved to be an identical twin to mine. The aroma of those two trout frying in margarine is a memory that will never grow dim, and after I tasted the tender, pink flesh under the crisp skin, I was destined to look upon every brookie with a watery mouth.

Brad and I are both students at Old Dominion University. After an especially tedious and trying semester, we decided to spend a few days on a spring backpack trip in the Blue Ridge Mountains. It was Brad's first backpack trip, so I suggested adding fishing gear to our burdens. Since we are both avid fishermen, I reasoned that the trip could not fail to be a whopping success. The rods proved to be more than worth their weight, for the excitement and novelty of the brook trout fishing offered a delectable topping for the sweet enchantment of the mountains in springtime.

Native brook trout can be found in cold, pure streams in the more remote portions of the mountainous, western part of Virginia, but the largest populations yet remaining in the state are probably those living in Shenandoah National Park streams. The fisherman must hike to these streams either from Skyline Drive, inside the park boundary, or from



the many small county roads which are chained where they enter the park to prevent public vehicle access. Foot travel, however, is permitted. Many of the National Park Service trails either follow good brook trout water or intersect it. Short day hikes will take you to most of the streams, but longer overnight backpack trips or trips of several days duration are often much more productive and memorable.

Write to the park superintendent for a listing of trout streams within the park. The listing contains access information, and indicates in which section of the park (north, central, or southern) each stream is located and on which slope of the ridge it descends (east or west). The address is: Superintendent, Shenandoah National Park, Luray, Virginia 22835.

Maps of each section of the park are available from the Potomac Appalachian Trail Club, 1718 North Street, N.W., Washington D.C. 20036. The price is one dollar each.

Tackle for these little trout should be light for two reasons. First, the fish will give a better account of themselves on light tackle. Second, you must carry all of your gear on your person. A one or two-hour hike in the Blue Ridge can be tiring even without the burden of extra cumbersome fishing gear, so make it easier on yourself, and carry a minimum.

The particular fly patterns usually do not seem as important as how they are offered. Drab colored wet flies and nymphs in sizes 10 to 16 are good. Weighted flies are needed for deeper pools at times, and occasionally a little flash of red on the fly will turn the head of a reluctant fish. Dry fly patterns are also good when the trout feed on the surface.

Always keep a low profile when fishing these small, clear pools. Never allow your shadow to fall upon the pool. I often crawl up to a promising section of stream on my hands and knees or even on my belly. To my knowledge, I have never been spotted by anyone while stalking the fish in this manner, but I imagine I will someday entertain some lucky hiker or fisherman with the technique. Conceal yourself with any available cover, be it boulder or brush, and choose somber colors for your Blue Ridge trout fishing wardrobe.

Native brook trout are extremely alert and wary. They can pick up vibrations caused by heavy footfalls on the bank, so walk, crawl and slither carefully. If you do happen to disturb the fish despite all of these precautions, rest the pool for about 20 minutes. If the fish have not experienced an extremely violent disturbance, chances are they will soon relax and resume feeding.

For fishing the small, brushy streams in Shenandoah I like ultra-light fly tackle. Actually my outfit consists of a 5½-foot midget spinning rod which handles a weight 4 floating fly line very well. A small, light, cheap single-action fly reel completes the outfit. I use 7 to 8-foot leaders tapered to about a 5x tippet. Some anglers prefer longer fly rods or ultra-light spinning tackle for this work. It is merely a matter of personal preference. Any rod and reel combination that allows the fisherman to cast delicately and carefully in cramped quarters is perfect. Often, the distance will be so short that your "cast" will be a mere flip anyway.

Trout season in Shenandoah National Park opens the first Saturday in April and runs through October 15. Only single hook lures are allowed. No more than five trout per day may be creeled, and they must be eight inches or longer.

Two fish-for-fun areas are located within the park and are open all year to fishing. They are on the Rapidan and Staunton rivers and their tributaries. Only a single hook, barbless lures are allowed, and all fish must be released.

Either a valid Virginia fishing license, or a special five-day permit available at park concessions is required to fish in the park.

Fishing for Blue Ridge native trout is not for those who equate success with maximum yield in size and quantity, but for those who wish to escape the crowds and fish for wild trout in a wild setting, it fills the bill beautifully.

*The Blue Ridge mountains offer persistent anglers an opportunity to fish for rare native brook trout.*

Bird of the Month

# THE

# BALTIMORE ORIOLE

By JOHN W. TAYLOR

The traditional association of this oriole with the city of Baltimore has little to do with the presence of the birds there. They were, in fact, called Baltimore orioles long before there was a settlement at Baltimore, even before there was a State of Maryland.

History relates that Cecil Calvert (son of George Calvert, the first Lord of Baltimore) was granted land in the colony then known as Virginia, but which is now a part of Maryland. The colors of Lord Baltimore's coat of arms were orange and black and so the colonists named the striking orange and black bird they saw in the new country, "Baltimore's oriole."

The American bird resembled the oriole the settlers had known in England, though the European species actually belongs to quite a different family. The name was nonetheless given official sanction when, in 1730, Mark Catesby described "Baltimore's oriole" in his *Natural History of Carolina and Florida*, the first published work on American natural history. In 1776, a few year's after Catesby's death, the eminent Swedish taxonomist, Carl von Linne, placed this oriole in its proper family, and gave it its scientific name: Icterus galbula *(Icterus*, Greek for yellowish, and *galbula*, Latin for "a small yellow bird.")

But the English name "Baltimore's oriole" was retained, thus sustaining the tradition that eventually linked the bird with Baltimore and the State of Maryland. The association was officially culminated when the General Assembly, in 1947, designated the Baltimore oriole as the state bird of Maryland.

Were it not for the historical relationship, the choice would hardly be an appropriate one. This oriole is not a common bird anywhere in Maryland and is virtually absent (except in migration) from the eastern, coastal plain counties. It is well distributed along the Upper Potomac and in the higher elevations to the west.

In Virginia, the same pattern holds. It nests from the upper Piedmont westward, becoming more frequent in the mountains. It is perhaps most common along rivers and streams, such as the Shenandoah, the Rappahannock and the upper James. The many small watercourses flowing from the mountains are also favored.

Such streamside habitats seem to satisfy their liking for tall trees in open situations. Shade trees in towns and along country roads also meet their needs, as they are not birds of heavy woodland. They even show a tendency to prefer the company of humankind, often making use of materials gleaned from farmyards and lawns for nest-building.

Using chiefly natural grasses and fibers, they fashion a pouch-shaped nest, suspended from a drooping branch. An exquisite example of avian architecture, it manifests exceptional worksmanship. It is woven exclusively by the female, though the male may assist by bringing material and by whistling encouragement. They begin by fastening long strands upon the supporting twigs, and then joining them at the bottom. They are then inter-twined with bits of dried vegetation, and incorporated with bits of string and paper when it is available. Often fibers of milkweed stalks are used, imparting a silvery sheen to the surface. Working from inside and often hanging upside down, she weaves the mass together with a rapid shuttling motion.

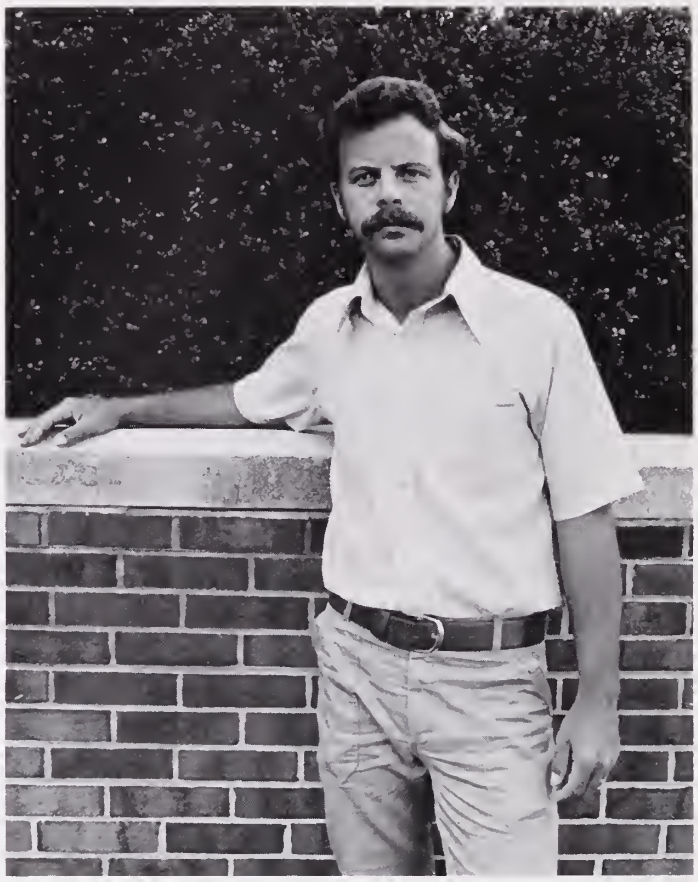
The final result, after several days of labor, is sack-like, rounded and enlarged at the bottom, with a narrow opening at the top. Despite its delicate appearance, it is able to withstand not only summer storms, but also the rigors of winter. Often a tree will hold the remains of nests built in previous seasons, and material from old nests may be reused in constructing a new one.

A large percentage of Baltimore oriole nests are situated in elm trees, perhaps because the branches arch conveniently. A sycamore is frequently selected in the Shenandoah Valley, where elms are not common. Black walnuts also serve, especially large, mature specimens.

Actual mating usually occurs a day or two before the first egg is laid, though courting activity begins as soon as the birds are paired off. In wooing his lady, Lord Baltimore perches near her, stretches to full height, and makes a series of rapid bowing motions, usually pivoting on the limb several times. This seems to be an effort to display every aspect of his gorgeous plumage. All the while he calls to her with soft whistling notes.

# Personalities

Edited by F. N. Satterlee



CHARLES A. SLEDD, Fish Biologist

"Charlie" Sledd is a native Virginian. He was born in the Franklin County city of Rocky Mount and did his "growing-up" on a fifty-acre farm just outside of town. It was in those surroundings that Charlie developed his love and understanding of wildlife and the outdoors and his interest in hunting and fishing.

Upon graduation from Franklin County High School he entered Virginia Polytechnic Institute and State University in Blacksburg, where he intended to become a pharmacist. Later he transferred to Virginia Commonwealth University in Richmond and changed his major to Biology. Charlie received his degree in Biology Education in 1972 and during that same year enlisted in the United States Coast Guard Reserve. This resulted in a six-month period of active duty during which time he received Basic Training in New Jersey and subsequently advanced training in Yorktown, Va. He is currently active in the Coast Guard Reserve and is involved in the Federal Boating Safety program.

At the completion of his active duty with the USCG he re-entered VCU and during August of 1974 received a Masters Degree in Aquatic Ecology and Fisheries. That same month he was employed by the Commission of Game and Inland Fisheries as a District Fisheries Biologist and assigned to the Fredericksburg area of the Commonwealth.

In January of 1976 Charlie was transferred to the Richmond area in the same capacity. Currently he maintains his office in Hanover County and has the responsibility for the 16-county-area in the Richmond vicinity.

Charlie Sledd enjoys being able to work with aquatic systems and to be outside. However, there is an overriding aspect of being in the fisheries business, which gave him a great source of satisfaction and that is "the feeling of accomplishment in helping to improve the fisheries in the Commonwealth which helps to provide an enduring recreational experience for the sportsmen and women in Virginia." Mrs. Sledd is the former Judy Smith of Ferrum, Virginia and she and Charlie live in Ashland, Virginia.

# LIZARDS OF VIRGINIA

By JOSEPH C. MITCHELL

Like snakes, lizards are member of the vertebrate class Reptilia. Both are covered with a layer of epidermal scales, neither require water in which to reproduce, and both must rely on external sources for their body heat, that is, they are "cold-blooded." Lizards differ from snakes in the following features: they have eyelids, the tongue is short and thick, there is a functional ear, and most have legs with clawed toes. Nine species are found in Virginia.

Reproduction occurs in the spring with both males and females engaging in species specific courtship behavior patterns. This usually consists of some head bobbing, showing of colors, and doing "push-ups." Eggs are laid in moist soil, sawdust or rotten logs. Females of the *Eumeces* group will guard their eggs until they hatch but afterwards there is no parental care.

Insects are the primary source of food but lizards will eat spiders, millipedes, ants, and in the case of the large ones, small lizards and mammals. In most cases the prey must be alive since lizards rely on motion to get their attention. These animals are preyed upon by birds, some mammals including man, and snakes.

Lizards are noted for their ability to regenerate their tails. Tail breakage usually occurs at a particular point and may result from its being caught in or under something, or by a predator grabbing it instead of the body. Regeneration involves replacing the lost vertebrate with a cartilaginous rod. The second one is never identical to the first. Once the tail is broken it cannot grow back together.

None of our lizards are poisonous and none have a stinger at the end of the tail. Large ones can bite very hard but do not usually break the skin.

Most of the Virginia lizards can be easily identified by body form and color. Some of the skinks have to be identified by counts and sizes of certain scales.

Green Anole *(Anolis carolinensis)* This is the chameleon of the pet shops. Has been sighted only in Suffolk. Coloration varies from green to brown with a whitish belly. Head is proportionally longer than in other species. A throat fan is present which is used in territorial combat and courtship. It is larger in males than females. Usually found above ground in trees and shrubs. An average of 2 eggs are laid in moist debris in June-July and hatch in 6-7 weeks. Size: to 7 inches.

Six-Lined Racerunner *(Cnemidophorus sexlineatus)* Ground dwelling lizard that is seldom caught due to its speed. Has been found throughout Virginia in dry, sandy or well drained soils. Body color is gray to black with 6 longitudinal stripes. Can dig their own burrows but may use those of small mammals. Four to six eggs are deposited in a burrow in June-July and hatch in August. Size: to 9½ inches.

Eastern Five-Lined Skink *(Eumeces fasciatus)* Statewide species found chiefly in moist woods under bark, in logs and lumber piles. Seldom seen in trees. Has 5 yellowish lines on a brown to olive body. Tail is blue in

the young. Two to eighteen eggs are laid in rotten logs or loose soil in late May-July and hatch 27-56 days later. Size: to 7½ inches.

Southeastern Five-Lined Skink *(Eumeces inexpectatus)* Looks like the Eastern Five-Lined except the middle row of scales under the tail is the same size as the other rows. In Eastern Five-Lined and Broad-Headed Skinks the middle row is larger than the other. Found statewide in wooded areas. Can tolerate drier conditions than the other two. Number of eggs and hatching times are similiar to the Eastern Five-Lined. Size: to 8 inches.

Broad-Headed Skink *(Eumeces laticeps)* Largest skink in our area, reaching 12 inches. Males have swollen jowls and an orange-red head. Sometimes called "scorpion." Other than those larger than 8 inches, they are hard to tell apart from the Five-Lined skinks except by scale counts. A more arboreal species than the other; often found in trees and lumber piles. Occurs statewide. Six to ten eggs are deposited in tree hollows or rotten logs in June-July; hatch about August.

Northern Coal Skink *(Eumeces anthracinus)* A skink of the mountain region having 4 light lines on an olive back extending into the tail. Young with blue tails. Found in humid areas of woody hillsides under rocks and logs. Eight or nine eggs are laid in late June and hatch in 4 to 5 weeks. Size: to 7 inches.

Ground Skink *(Lygosoma laterale)* Slender brown skink with a dark brown stripe on each side. Found statewide in leaf litter, under boards and logs in moist woods. Seldom climbs. Young do not have blue tails. One to five eggs are deposited in humus or rotten logs in June-Aug.; hatch in late Aug. through Sept. Size: to 4½ inches.

Eastern Slender Glass Lizard *(Ophisaurus attenuatus longicaudus)* A lizard without legs but with external ear openings and movable eyelids. Brown with dark stripes down the sides and one, which may be broken into dashes, down the back. The tail is two-thirds the length. Found in dry grassland and woods in the southeastern third of the state. Eight to seventeen eggs are laid in June to July and hatch in 56-61 days. Size: to 37 inches.

Northern Fence Lizard *(Sceloporus undulatus hyacinthinus)* A brown to gray lizard usually found in dry pinewoods throughout Va. Prefers to stay above ground. Females are most often gray with a fairly distinct wavy pattern across the back. Males usually brown with blue patches on sides of the belly and neck. Young are like the females. The scales are spiny, unlike our other lizards which have smooth scales. Four to seventeen eggs are laid in moist ground in May-June and hatch in Aug.-Sept. Size: to 7 inches.

*Lizards Illustrated on Back Cover by "Spike" Knuth.*

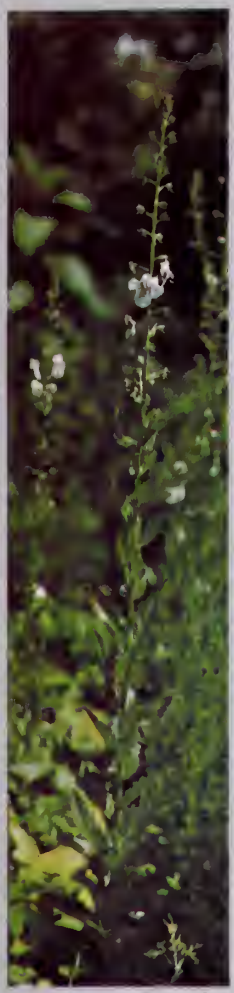
# MOTH MULLEIN

By NEWTON ANCARROW

The Moth Mullein could be thought of as a late spring flower beginning to bloom about the middle of May, even though it blooms throughout the summer to October. It favors sunny dry roadsides, wasteplaces and old fields. It is considered by most as a weed despite it's striking flowers. The name Moth Mullein stems from the striking resemblance of the hairy center portion to a moth. The flowers are more commonly yellow.

The plant starts out in late spring as a rather tidy plant with the large flowers which are about 1½ inches across, confined to the very loose raceme on the upper portion of the plant and the partly clasping leaves on the lower portion (A). Later in the summer, by July (B), the plant reaches heights of 4 and 5 feet. By now the lower leaves are large and lyrate with short stalks. There is a branch from virtually every lower leaf, and the plant takes on a decidedly weedy, disheveled look. In addition, when the weather becomes hot, in early June, the flowers are much reduced in size and do not present as nearly an attractive appearance. By now it is truly a weed (C). However as can be seen in (B) the uniformity and symetry of the fruit gives the plant a rather singular appearance. In October when the fruit ripens the very firm nutlike fruit splits revealing the very tightly packed seeds. The seeds resemble tiny brown dried corn cobs only about 1/32 inch long (D). The plant may be propogated by these seeds, producing the showy flowers the second year.

# WORLD OF WILDFLOWERS



A

B

C

D

Wildlife Readers Opinion Poll

# What is your preference?

By KIRK H. BEATTIE, THOMAS A. PIERSON, HARRY L. GILLAM

Dr. Robert H. Giles, Jr., Professor of Wildlife Management at Virginia Tech, has defined wildlife management as "the science and art of making decisions and taking actions to manipulate the structure, dynamics, and relations of wild animal populations, habitat, and man to achieve specific human benefits by means of the wildlife resource." Human benefits derived from sport hunting constitute a significant portion of the satisfactions derived from the wildlife resource.

Game management has traditionally focused on the single objective of maximizing game numbers, based on the assumption that success (bagging game), was the principal source of hunter satisfaction. Increasing numbers of hunters in relation to available hunting acreage, coupled with relatively stable or sometimes declining game populations, have resulted in a reduced probability of success in terms of game bagged.

A "days afield" approach to measuring hunter satisfaction is often used as a replacement for or an addition to the "game bagged" approach. Many state and federal wildlife agencies measure the success of their game management programs by estimating the number of "hunter days afield." This approach assumes that an increased number of hunters in the field will produce an increased total amount of benefits. Thus, using the days-afield approach, allowing 200 squirrel hunters on a 2,000-acre hunting area presumably produces twice the amount of total hunter satisfactions when compared with

## EXAMPLES OF EACH DIMENSION OF HUNTING SATISFACTION

1. **NATURE:**
   Being close to nature, just being outdoors, the smell and sound of the woods and fields, getting away from civilization, camping while hunting, at least seeing some wildlife.

2. **ESCAPISM:**
   Getting away from everyday problems, getting away from civilization, getting away from home, seeing very few other people while hunting.

3. **COMPANIONSHIP:**
   Being with my hunting companions, working my dog.

4. **SHOOTING:**
   Shooting my gun, at least getting some shots, seeing game fall as I shoot, making a difficult shot.

5. **SKILL:**
   Outsmarting game, stalking game, being thought of as a skilled hunter, bagging more game than hunters in other parties, teaching someone else the skills of hunting, bagging as much game as my hunting companions, making a difficult shot.

6. **VICARIOUSNESS:**
   Watching hunting movies or TV programs, reading sportsmen's magazines, telling hunting stories and experiences (vicariousness refers to those activities that may serve as temporary substitutes for hunting or may heighten the expectation of hunting).

7. **TROPHY-DISPLAY:**
   Showing game I bagged to family and friends, bagging a very large bird or animal, bringing game home, displaying game while going home, saving hides, horns, or feathers.

8. **HARVEST:**
   Getting my bag limit, amount of game bagged, getting meat.

9. **EQUIPMENT:**
   Being a well-equipped hunter, having the best of hunting equipment, cleaning and maintaining my hunting equipment, comparing my equipment with other hunters', collecting guns.

10. **OUTGROUP VERBAL CONTACT:**
    Talking with hunters in other parties.

11. **OUTGROUP VISUAL CONTACT:**
    Seeing hunters from other parties.

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# Virginia Hunter Satisfaction
# QUESTIONAIRE

**What type of animal do you most enjoy hunting? (Please check only one)**

| | | | |
|---|---|---|---|
| ☐ DEER | ☐ GROUSE | ☐ TURKEY | ☐ FURBEARERS |
| ☐ DOVE | ☐ QUAIL | ☐ WATERFOWL | ☐ RABBIT |
| ☐ BEAR | ☐ SQUIRREL | ☐ OTHER (please specify: _____ | |

**PLEASE COMPLETE THE REMAINDER OF THE QUESTIONNAIRE IN RELATION TO THE ANIMAL YOU MOST ENJOY HUNTING. EXAMPLE:** If you most enjoy deer hunting, and escapism moderately adds to the satisfactions you derive from deer hunting, place an "X" under the column "moderately adds" and on the same line as "escapism."

| | HIGHLY ADDS | MODERATELY ADDS | NEITHER ADDS NOR DETRACTS | MODERATELY DETRACTS | HIGHLY DETRACTS |
|---|---|---|---|---|---|
| ESCAPISM | ☐ | ☒ | ☐ | ☐ | ☐ |

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**SATISFACTION**

| DIMENSION | HIGHLY ADDS | MODERATELY ADDS | NEITHER ADDS NOR DETRACTS | MODERATELY DETRACTS | HIGHLY DETRACTS |
|---|---|---|---|---|---|
| NATURE | ☐ | ☐ | ☐ | ☐ | ☐ |
| ESCAPISM | ☐ | ☐ | ☐ | ☐ | ☐ |
| COMPANIONSHIP | ☐ | ☐ | ☐ | ☐ | ☐ |
| SHOOTING | ☐ | ☐ | ☐ | ☐ | ☐ |
| SKILL | ☐ | ☐ | ☐ | ☐ | ☐ |
| VICARIOUSNESS | ☐ | ☐ | ☐ | ☐ | ☐ |
| TROPHY-DISPLAY | ☐ | ☐ | ☐ | ☐ | ☐ |
| HARVEST | ☐ | ☐ | ☐ | ☐ | ☐ |
| EQUIPMENT | ☐ | ☐ | ☐ | ☐ | ☐ |
| OUTGROUP VERBAL CONTACT | ☐ | ☐ | ☐ | ☐ | ☐ |
| OUTGROUP VISUAL CONTACT | ☐ | ☐ | ☐ | ☐ | ☐ |

**PLEASE FOLD AND MAIL AS PER INSTRUCTIONS ON REVERSE SIDE:**

TOP

DIRECTIONS FOR MAILING QUESTIONAIRES.

First Fold Top Side Under.

Then Fold Bottom In And Fasten With Tape.

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Place Stamp Here

KIRK H. BEATTIE
DEPARTMENT OF FISHERIES AND WILDLIFE
100 CHEATHAM HALL
VPI & SU
BLACKSBURG, VIRGINIA 24061

HUNTER SATISFACTION SURVEY

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BOTTOM

TOP

DIRECTIONS FOR MAILING QUESTIONAIRES.

First Fold Top Side Under.

Then Fold Bottom In And Fasten With Tape.

Place Stamp Here

KIRK H. BEATTIE
DEPARTMENT OF FISHERIES AND WILDLIFE
100 CHEATHAM HALL
VPI & SU
BLACKSBURG, VIRGINIA 24061

VIRGINIA WILDLIFE READER PREFERENCE SURVEY

BOTTOM

# READERSHIP PREFERENCE SURVEY

One of the fascinating things about nature is that a multitude of people can enjoy it in a multitude of different ways. We know from letters we receive that among our readers are hunters, fishermen, photographers, natural history buffs, bird watchers, gourmet cooks, hikers, campers and many other outdoor types. We try to choose articles that will please all but we could do a much better job if we knew a little more about our readers. Please take the time to complete this survey so we can learn more about you to serve you better.

On the first 9 questions, rank the answers from one to 6 (some have only 4 or 5) according to the degree they interest you. Do it for all categories even though certain ones may not interest you at all. If there is more than one reader in a family, try to get a consensus.

EXAMPLE ! Wildlife Management Articles
1 Current Program
4 Management Statistics
3 How to
5 Career Information
2 Issues

READERSHIP PREFERENCE SURVEY

1. HUNTING AND FISHING STORIES
   _____ First Person Adventure Account
   _____ How To Stories
   _____ Where To Stories
   _____ Equipment
   _____ Field Dressing and Recipes

2. BOATING ARTICLES
   _____ Cruises and Trips
   _____ Boat Fishing
   _____ Canoeing
   _____ Equipment and Rigging
   _____ Navigation and Safety
   _____ Sailing

3. WILDERNESS ADVENTURE ARTICLES
   _____ First Person Adventure Accounts
   _____ Where to Go
   _____ How To
   _____ Equipment
   _____ Spectacular Photo Stories
   _____ Woodcraft

4. ARTICLES ABOUT ENVIRONMENT & POLITICAL ISSUES
   _____ Habitat Loss
   _____ Pollution
   _____ Energy
   _____ Gun Control
   _____ Federal Policies

5. WILDLIFE MANAGEMENT ARTICLES
   _____ Current Programs
   _____ Management Statistics
   _____ How To
   _____ Career Information
   _____ Issues

6. NATURAL HISTORY STORIES
   _____ Animal Personalities
   _____ Flowers and Trees
   _____ Insects
   _____ Nature Study
   _____ Odd and Unusual Facts
   _____ Personal Experience

7. HISTORY – NOSTALGIA ARTICLES
   _____ Wildlife From the Past
   _____ Adventure Stories
   _____ Indian Lore and Artifacts
   _____ Famous Outdoorsmen
   _____ Fading Rural Lifestyle
   _____ Landmarks

8. WILDLIFE ARTS AND CRAFTS ARTICLES
   _____ Wildlife Artists & their work
   _____ Wildlife Photographs
   _____ Wildlife Carving
   _____ Unusual

9. Number the following subjects from 1-10 in order of your preference as reading material (where 1 is most preferred and 10 is least preferred)
   _____ Hunting Stories
   _____ Fishing Stories
   _____ How To – Outdoor Equipment
   _____ Boating
   _____ Hiking-Wilderness Adventure
   _____ Natural History
   _____ Wildlife Management
   _____ Wildlife Arts and Crafts
   _____ History – Nostalgia
   _____ Environmental Issues

On Question No 10 merely check each of the categories of interest.

10. My personal outdoor interests include (check only those applicable)
   _____ Hunting
   _____ Fishing
   _____ Boating
   _____ Hiking
   _____ Camping
   _____ Photography
   _____ Bird Watching
   _____ Wildflowers
   _____ Cooking
   _____ Tackle Making
   _____ Archery
   _____ Muzzle Loading
   _____ Woodcraft
   _____ Ecology
   _____ Environmental Activist

PLEASE FOLD AND MAIL AS PER INSTRUCTIONS ON REVERSE SIDE:

only 100 squirrel hunters on the area. However, hunters across the nation have recently begun complaining about over-crowded hunting conditions, which implies that under certain conditions there exists a hunter density above which the benefits per hunter begin to decline.

Perhaps a better measure of total benefits derived from hunting would be the number of "quality-ranked man-days of hunting." Perhaps 1 extremely high quality day of hunting might be perceived by some hunters as being equal to 3 or 4 very low quality days of hunting. Allowing 200 squirrel hunters on a 2,000-acre tract of land for each of 4 consecutive hunting days may result in a low quality hunting day for each hunter for each of the 4 days. Allowing 100 different squirrel hunters on the area for each of the 4 days might result in 1 high quality hunting day for each hunter rather than 4 low quality hunting days. The number of "man-days of hunting" would be 2 times larger in the first example but the number of "quality-ranked man-days of hunting" might be twice as large in the second example (200 hunters x 4 days x ¼ quality day = 200; 100 hunters x 4 days x 1 quality day = 400).

Dr. John C. Hendee, a social scientist with the USDA Forest Service, has suggested a "multiple satisfactions" approach to game management. This approach is based on the idea that hunters experience a wide variety of satisfactions from hunting and that the restrictive use of criteria such as "game bagged" and "man-days of recreation" is not adequate for describing the richness and diversity of the hunting experience.

Past research studies have suggested that some minimum probability of success (the probability of taking 1 or more game animals) is necessary to provide a satisfactory hunting experience but the expectation of success by itself is not sufficient to produce a quality hunt. Satisfactions derived from hunting are numerous, complex, and probably vary with game regulations, hunter densities, game densities and distribution, and topography of the hunting area. It is possible that an individual's assessment of the different factors that add to or subtract from the satisfaction he derives from hunting may change over time.

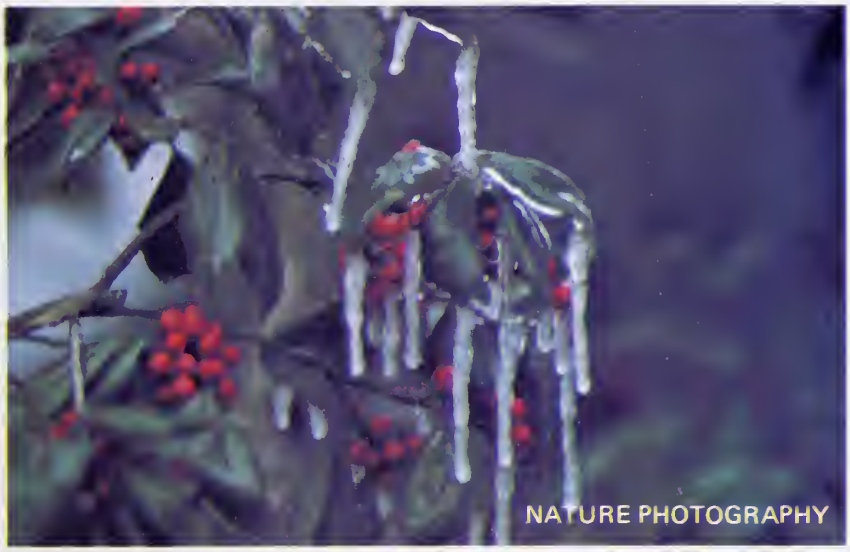
Some dimensions of satisfaction apply to all hunters, for example "shooting" and "harvest." However, a big-game hunter may be satisified with only a few shots per season but a squirrel hunter may require many shots each day to satisfy his "shooting" dimension. Duck hunters might require one or more birds "bagged" per day whereas big-game hunters may be satisfied with one or less kills per year.

Wildlife and game management exist to achieve specific human benefits from the wildlife resource. Personnel of game management divisions need a clear and uncluttered picture of the relative contribution of each benefit to the total satisfactions derived from hunting to provide opportunities for the occurrence of those experiences which typify quality hunting. Drs. Potter, Hendee, and Clark have indicated that "the capacity to provide hunters with the satisfactions they seek may decline before either the amount of game or sheer physical space becomes a limiting factor." Increasing pressure on game populations and decreasing available hunting areas indicates that hunter numbers will have to be managed carefully in the future to provide for quality hunting opportunities.

Please complete both the hunter satisfactions and readership preference questionnaires if you are a resident Virginia hunter. If you are not a resident Virginia hunter, please complete only the readership questionnaire. The questionnaires can be answered easily and will take only a short time to complete. After completing either one or both of the questionnaires, place the questionnaires page in an envelope and return it as soon as possible to the address shown on the bottom of the questionnaires. How do your hunting satisfactions and conservation reading preferences compare with those of other Virginia hunters and *Virginia Wildlife* readers?

Your responses will be combined with those of other Virginia hunters and *Virginia Wildlife* readers and the results will be presented in an upcoming issue of *Virginia Wildlife*.

RECREATION


NATURE PHOTOGRAPHY

# Catch A Trophy Fish !

## VIRGINIA'S TROPHY FISH WHERE AND WHEN TO CATCH THEM

By HELEN RANDOLPH

According to the poets Spring is full of romantic notions, but according to the records of Virginia's trophy fish citations issued in 1976, spring is the time to catch the bigger and the best fish of the year.

March and April led all other months in production of citation catches for largemouth and landlocked striped bass. Nearly 40% of all the citations issued for these species were awarded for catches made in March and April. Surprisingly, spring accounted for most of the trophy catches of members of the pike family, which are usually thought of as being most active in the fall.

Of a total of 157 citations awarded for pickerel over 4 lbs, 67 (42%) were taken in February and March. A total of 88 trophy muskies were caught, of which 41 (46%) were taken in March and April. Spring also witnessed the capture of 3 of the 4 citation northern pike taken in the Old Dominion.

March and April accounted for 33 of 59 citation crappie and 46 of 135 citation smallmouth bass.

The summer months proved best only for channel catfish. The period May through August produced 131 of the year's trophy catch of 206.

Another surprise was that trophy trout catches were substantially higher in the fall. Twenty-one of 50 trophy brown trout were taken in October, November and December. Ten of the year's total of 20 rainbow trout trophies were caught in October.

There were only 7 trophy walleyes registered in 1976 and 5 of these were caught in March and April.

You could ask a score of bass fishermen and nary a one would realize that top water in the Old Dominion for trophy bigmouth bass is Back Bay. In 1976 41 trophy largemouths were surrendered by Back Bay. Lake Gaston was a close second with 35. Buggs Island was a distant third with only 15 trophy largemouth bass registered. Lake Gaston's trophy production peaked very early in the year with 23 of the 35 citation winners being caught in March and April. Back Bay surrendered its trophies more grudgingly, spreading them out fairly evenly between March and September with April producing the monthly high of 11 trophies. The Chickahominy, usually ranked in the top 3 as a producer of trophy bass, fell to seventh place behind Big Bethel, Western Branch, and Diascund Reservoir. Lack of attention due to kepone restrictions rather than lack of bass probably accounted for the Chick's poor showing. The heaviest bass of the year was a bit small by Virginia standards, weighing only 11 lbs, 9 oz. This one was caught in a private pond by B. C. Grimsley of Lynchburg. The second place bass was only an ounce lighter, but that ounce prohibited Back Bay from claiming big bass honors for the year.

Big Bethel Lake in Hampton produced the best fall fishing for trophy bass. Eight were taken in November at Big Bethel, which is remarkable when you consider that only 13 trophy bass were taken in November state-wide. Lake Chesdin produced a 10 lb bass last year, serving notice that it is water to reckon with in the future. The Nottoway River is also quietly leading up to a leadership position with 10 citations in '76.

Smith Mountain literally ran away with the striped bass honors. The mountain gem produced 222 of the Commonwealth's 308 trophy fish. Buggs Island anglers registered only 45 citation earners. Some observers say that the difference between Smith Mountain and Buggs Island is more apparent than real. Because Smith Mountain has more marinas, more citation fish are registered than at Buggs Island where 10 lb stripers are rather common in the spring and late fall. The Smith Mountain striper blitz opened in January and didn't let up until June. A total of 159 trophy stripers were boated through May. The top three

striped bass of the year, ranging from 36 lbs, 8 oz down to 34 lbs were all claimed by Smith Mountain. A 33 lb linesider earned Buggs Island fourth place. Every month of the year produced trophy striped bass at Smith Mountain with March (48) and April (42) sharing top honors. February (9) and March (11) were the best months at Buggs Island, however, this writer witnessed the capture of more trophy winners than this in one day at Buggs Island in November. Lake Gaston's 27 trophy winners took third place. The Mattaponi River with 6 stripers took fourth while the Pamunkey River and Lake Prince tied with three apiece. It is interesting to note that the striper fishing in the tidal rivers, the Pamunkey and the Mattaponi, peaked in May.

Virginia's most common representative of the pike clan is the Eastern Chain Pickerel which are called "jackfish" around Fredericksburg and "pike" throughout the remainder of the state. Of a total 157 citations issued for pickerel, 68 were creeled in February and March. Only 32 were caught during the fall, September through December. So much for fall pickerel fishing. The Chickahominy Lake is the pickerel capital of Virginia with 23 citations, 11 of which were taken in February and March. The heaviest pickerel was produced at Douthat State Park where a stout, trout-fed 7 pounder copped the honors. Further proof that stocked trout are fattening for pickerel could be found in the pair of 6 pounders that were also caught there. Buggs Island produced more trophy pickerel than bass, claiming second place with 18 citation winners. February and March were also the best months here. The reliable pickerel waters around Suffolk got in their licks. Burnt Mills was third with 16 citations, Lake Prince fourth with 14, and Lake Cohoon fifth with 9. Western Branch, once Virginia's pickerel leader, produced only 3 citation winners. Douthat was unique with 4 citation earners, but the 4 were giants. One was the state leading 7 pounder, two weighed 6 and the fourth tipped the scales at 5 pounds. Of all the lakes Burnt Mills had the best fall action, giving up 11 of its 16 trophies in the fall months.

A pair of identical twins won first and second place in the northern pike division for Occoquan Reservoir. Both fish weighed 22 lbs 9 oz. Only 4 citations size pike were taken in '76 and Occoquan had 3 of them. The fourth was taken at Lake Orange.

The musky is, by far, the biggest and meanest member of the pike family. If anyone has doubts that Smith Mountain Lake is big fish water a quick look at its musky credentials will change his mind. This lake, which produced 222 trophy stripers also gave up 50 citation muskies. Most impressive was the fact that 5 of these fish topped 30 pounds; 13 weighed more than 25 and 9 weighed more than 20! These are good muskies in anyone's geography. March and April were the hot musky months with more than 50% of the trophies being taken in these two months.

Tiny, intensly fished Burke Lake took second honors in the musky category with 13 winners. One of these topped 20 lbs and 6 weighed more than 15. The upper James took the show position with 10 trophy muskies. The river fish ran smaller with only 1 over 20 pounds and 7 over 10. The James, considered a good late winter musky bet, gave up 5 of its trophies in July.

The James River and Smith Mountain Lake went head to head in the annual battle for smallmouth bass honors. Smith Mountain's 7 lb bronzeback took top honors and the lake edged the river in total citation winners 38 to 35. Claytor Lake placed 3 bass in the top 6 fish with one weighing 6 lbs, 4 oz. Over all Clayton was a poor third with 22 citation smallmouths. March and April were the best smallmouth months, except in the James River where good catches were recorded in July, August and September. Comparing the James to the other better known smallmouth streams is really no comparison at all. The James' 35 citations are well ahead of the 11 produced by the Rappahannock and 8 taken from the Shenandoah.

Buggs Island took all the marbles in the crappie division. It had the heaviest crappie, a 4 lb, 4 oz slabsider and it had the most citations with 21. Lakes Chesdin was a distant second with 7 trophy crappie. March and April were the top crappie months at Buggs Island when 14 of the lakes's 21 citations were earned. All of Lakes Chesdin's citation fish were taken in April and May. Statewide, March, April and May accounted for 42 of the year's harvest of 59 citations.

One of our older man-made lakes, old reliable Lake Prince took the sunfish honors with 19 of the Commonwealth's 159 citations. Many of the trophy bream, 53, were taken in private ponds. Monk's Pond produced the year's heaviest, a 3 lb, 5 oz bream. Statewide, May was the top bream month, with 43 citations. The combined catch for April, May and June was 93. None were caught in November, December and January. At Lake Prince the best trophy bream months were August and September.

Flannagan Reservoir produced the state's biggest channel catfish but little Burke Lake produced the most citation winners. Of the 206 channel cat citation issued in '76 Burke Lake had 62 of them. The Chickahominy and James Rivers tied for a distant second place with 26 apiece. Channel cat fishing hotted up in April and stayed hot into October. July was the best month with 50 citations. Half of these were earned at Burke Lake.

There were only 7 citations awarded for walleye during the year. Lake Gaston took 3 of them, including the heaviest which weighed 11 lbs, 8 oz. This fish was taken below the John Kerr Dam. March and April were the most productive months, accounting for 5 of the 7 citations.

The Jackson River was the home of 9 lbs, 4 oz worth of brown trout, the biggest one caught in '76. The Smith River had the most citation winners, 16, out of a state total of 50. Carvins Cove had a brownie blitz in October when all 9 citation browns taken there were caught. Yet, the Smith River produced most of its lunkers in November and December.

A 6 lb, 10 oz rainbow took first place in the rainbow trout class. This fish was caught at Milbrook, but Sherando Lake had the most with 6. October was, by far, the best month for trophy 'bows, producing half the state total of 20.

Best waters of 1976:

| | |
|---|---|
| Largemouth Bass | Back Bay |
| Smallmouth Bass (Lake) | Smith Mountain Lake |
| Smallmouth Bass (River) | James River |
| Muskellunge | Smith Mountain Lake |
| Striped Bass | Smith Mountain Lake |
| Pickerel | Chickahominy Lake |
| Northern Pike | Occoquan Reservoir |
| Crappie | Buggs Island Lake |
| Sunfish | Lake Prince |
| Channel Catfish | Burke Lake |
| Brown Trout | Smith River |
| Rainbow Trout | Sherando Lake |
| Carp | Rappahannock River |
| White Bass | Claytor Lake |
| Grindel (Bowfin) | Chickahominy Lake |
| Rock Bass | Nottoway River |

*Try a pellet gun for starlings, sparrows or frogs.*

# OFF-BEAT HUNTING

*The off-beat hunter can handicap himself by using the hand gun.*

*Woodchucks a varmint hunte beat species.*

By BOB GOOCH

Old Dominion hunters seeking solitude, the often missing element in modern hunting, might try some off-beat hunting. By this I mean going after Virginia's neglected game and non-game species.

As is true of most states, Virginia hunting follows a well-established pattern. Bird hunters seek doves, grouse and quail; small-game hunters go after rabbits and squirrels; big-game hunters bag deer, turkeys and a few bear; and varmint hunters zero in on crows and woodchucks. For the waterfowler, the Old Dominion is primarily a duck hunting state with limited opportunities for Canada geese.

First, let's talk about the state's neglected game species. The rail, the spindle-shanked bird of the salt and freshwater marshes is a good example. While there is lingering interest in hunting the bigger clapper rail of the salt marshes, the tiny sora of the fresh water is a forgotten game bird. It may well be the most unharvested game in Virginia.

There are two major reasons for the decline in sora hunting: one is the scarcity of public-owned marshes that hold the birds, and the other is the almost total absence of guides to pole the hunter's boat through the marshes.

A pair of hunters can solve the poling problems by alternating at the long pole. Some hunters also wade the marshes, but the going is tough and tricky. Finding a place to hunt sora is more of a problem. It is a matter of seeking out the owners of the big marsh areas and gaining access to them. The sora season opens in early September, long before the waterfowl season. Consequently, there is no conflict.

While much of the Old Dominion is considerably east of the major woodcock migration routes, there is reasonably good timberdoodle hunting in the state. It, too, goes wanting. Most birds are bagged more or less accidentally by grouse, quail or small-game hunters.

Locating the birds in the moist bottomlands where they use their long bills to probe for worms is the major problem. Once located they can provide top sport for the bird hunter and his pointing dogs. The snipe is another underharvested game bird that can prove challenging to Virginia hunters.

Fox hunting is primarily a hound and horse sport in much of the Old Dominion, but in parts of the state old Reynard is rarely hunted. Gun hunting is illegal in the counties of Albemarle, Amelia, Clarke, Charlotte, Culpeper, Fauquier, Halifax, Lee, Loudoun, Louisa and Rappahannock. In these counties the hunters and their hounds keep the fox populations in check, but in others they sometimes reach nuisance numbers and the state trappers have to be called in. Gun hunting is legal in most counties, but the seasons vary considerably. Hunting foxes with hounds and guns or predator calls is popular in many states, but seldom done in Virginia.

The raccoon is the favorite of the night hunters, but both the bobcat and oppossum are classified as game animals. They receive little attention from Old Dominion hunters, however. Coon hunters train their prized hounds to ignore oppossums, and as a consequence they are underharvested. Bobcats are highly secretive and difficult to hunt, but they offer another challenge.

Developing hunting methods for such game can be an interesting challenge. Innovative American hunters are noted for their often improvised but effective hunting methods.

Would-be woodcock hunters can find a wealth of information from other regions of America where timberdoodle hunting has long been popular. Frank Woolner's book, *Timberdoodle!* is a fine reference. It is available for $7.95 from Crown Publishers, Inc., 419 Park Avenue South, New York, New York 10016.

*All About Small-Game Hunting* is a fine guide to off-beat small-game hunting. It covers such areas as gun hunting for bobcats, foxes and other species. Considerable attention is focused on the use of the predator call for both bobcats and foxes. The book was edited by Russell Tinsley, but numerous writers contributed

-game species, but so popular among they cannot be considered an off-

The snipe is an underharvested gamebird in Virginia.

The off-beat hunter can use a slingshot as well as archery tackle or firearms.

chapters to this anthology on small-game hunting. The publisher is Winchester Press, 205 East 42nd Street, New York, New York 10017. This very practical book sells for $10.

Off-beat hunting seldom calls for additional equipment. Any light scattergun will handle sora and woodcock, and the fox or bobcat hunter will do well with a light deer rifle or waterfowling shotgun with the appropriate loads. Most bird dogs will point woodcock, and if the sora hunter decides to wade he can use the same waders he wears on the trout streams or in the waterfowl marshes. The fox or bobcat hunter may need a predator call, a small investment.

The "Summary of Virginia Game Laws," in addition to crows and woodchucks, lists the non-game species as starlings, English sparrows, frogs, turtles and mammals not classed as game or furbearing animals.

Among these various species, the starling offers the best opportunity for some off-beat hunting. Many fall to the hunters' guns every season. Dove hunters nail them as they wing over their stands, squirrel hunters test the accuracy of their pet rifles on birds perched temptingly in a nearby tree, and schoolboys sharpen their shooting on the pesky black birds. Even so the birds remain at nuisance levels and could stand a lot more shooting.

Hunters could do society a favor by declaring limited war on the everpresent imports. Starlings do not present tough wingshooting targets. Still, the scattergun fan who posts himself along a flyway can enjoy some fast action, practice that will stand him in good stead for doves, ducks and other birds. Another good spot is a resting tree,where the hunter can take a stand and take birds as they come in.

The starling can also provide some top off-beat shooting for the rifleman. Perched on the bare branches of a long tree, it presents a tiny target for the .22 fan. And if the hunter wants to really handicap himself,let him try picking them off with a pellet gun. I have heard that the dark breast meat of the starling is very tasty. I have not tried it however, and cannot make a recommendation.

English sparrows are not nearly as plentiful as the starling, but they too can become pests, particularly around residences where they compete with the more desirable songbirds for bird feed. Try a pellet gun on them. Bluejays and vultures, once classed as non-game species, have escaped that category to join the songbird protected group.

The varmint hunter should add skunks to the list of possible targets for his flat-shooting rifle. They too reach nuisance levels in some areas and are seldom molested. They are often spotted roaming the fields by day, though, like many animals, they move more at night.

The fur of the skunk has a market value, but the explosive varmint bullet will destroy it. Hunting them with a .22 caliber rimfire rifle is more appropriate if the fur is to be salvaged.

The fact that a bird or mammal is classed as a non-game species does not relieve the hunter who hunts it of the need for a license. Either a county or statewide hunting license is needed for varmints of any kind.

Frogs and turtles fall in the gray zone between hunting and fishing, and, depending upon how he goes after them, the angler/hunter may need either a fishing or hunting license--or a special permit. Where local ordinances permit it, hunting frogs with a pellet gun can be fun and productive of tasty meals. Turtles also provide fine eating, and they can be bagged by a variety of methods.

If the hunter wants to increase his handicap and add more of a challenge to his off-beat hunting, he can try the hand gun, now legal for hunting throughout most of the Old Dominion.

For the archer,off-beat hunting offers all kinds of possibilities ranging from bullfrogs to attempting to arrow a skunk--from a distance. The hunter who takes a serious look at off-beat hunting will find all kinds of possibilities to add interest to his hunting year.

# DRAGONFLY

By RICHARD GROOVER

While I slowly drifted along with some unseen current, I wondered what true fisherman had not ever experienced the serenity of a peaceful cove on a warm spring morning? For almost an hour ripples appeared over the surface of the water, clearly indicating that a monstrous bass was patrolling its domain in search of an ever necessary meal. As the sun rose over the trees, casting a warm beam upon the back of my neck, I spotted the bass moving closer and closer to my waiting hook. As if by magic, I became hypnotized watching its movements. In this state I was unaware of the world around me, the wind softly rustling through the trees, the cardinal perched above me, or the beads of perspiration forming on the back of my exposed neck.

*A peaceful day of fishing can be disturbed by annoying mosquitos.*

And then, just as that monster was about to take my hook, I winced in pain as an intruding female mosquito finished her meal on the back of my neck. I let out an unplanned yell and, in a futile effort, smashed the palm of my hand on the mosquito's dinner table.

Well, the damage had been done. As I scratched my neck, I glanced back at the water's surface. It had suddenly transformed into a mass of ripples, all coming from the bottom of my boat. I could almost hear that fish laughing at me as it swam to the other side of the lake.

Surely this had happened before, perhaps to other fishermen. Yet it seemed there was no relief from those creatures that prey on defenseless sportsmen; sucking their blood, spoiling their catch, and leaving a persistant calling card. Had Mother Nature overlooked this vampire of the fields and streams and not provided us with a protector to prevent this harrassment?

Upon arriving home, still perplexed by this problem, I consulted several noted references on this subject. I remembered from my school days reading about one Lancelot of the woods that did feast rather effectively on mosquitos, just the type of revenge I was seeking. Skimming the texts, I found my champion, the "Mosquito Hawk." Sometimes feared for centuries as an evil or even poisonous creature, it had been more recently accepted by most as a harmless insect and is usually referred to as the common dragonfly.

Actually, few people realize the very important role this animal plays in the story of nature. It is especially involved in the ecological makeup of a stream or lake, making it a true friend of the freshwater fisherman.

At almost every stage of its life, the dragonfly performs a useful role. After the larva (an immature form

*Poised and delicate the adult dragonfly relaxes here before continuing feeding.*

of the dragonfly) hatches out of its egg case, it immediately joins that famous biological food chain. As a predator, it eats smaller-sized mosquito larvae with true gusto. One researcher has reported that an observed dragonfly larvae ate at least 100 mosquito larvae in slightly over an hour. With its powerful jaws that protract out to a distance one-third its total length, the immature dragonfly is quite adept at catching its food. Think what our little friend could consume in a full day, and then consider how many mosquito larvae it could eat in one to three years, which is how long the dragonfly remains at this stage in its life.

On a warm day, the dragonfly youngster quite suddenly climbs out of its familiar aquatic home, bursts open its old skin-covering and emerges as a winged adult dragonfly. But at this point, do you think our friend would leave us alone to fend for ourselves against the pesky mosquitos? Well, of course not. Just as the immature dragonfly is amply equipped to catch the aquatic living immature mosquitos, the adult dragonfly is also prepared to do its part. These aerial acrobats are very much like the fighter pilots of the first world war. As they skim across the sky searching for any available target, it is often an unsuspecting mosquito that becomes the dragonfly's meal. With unbelievable speed and agility, the dragonfly will zoom down, grab the mosquito with its legs, throw it into its mouth and consume the prey without stopping its flight. This safari may last for several hours, and again the number of mosquitos eaten is phenomenal.

It should be mentioned that dragonflies sometimes become the prey. This can occur when they are immature larvae and later as adults involved in the vulnerable mating or egg laying position. In either case, the dragonfly is eaten by another member of the food chain, perhaps a bass, which of course aids the biological flow of energy in nature.

So consider the service the dragonflies provide us and the harmony of nature. During virtually every waking moment of its life this insect feeds, and often includes mosquitos on its menu. Eventually the dragonfly might become food for your fish in the lakes or streams. Thus, the dragonflies are truly an important link in the biological chain, and as a result, they are very much a friend of the fisherman.

*The quiet cove is a good place to find fish, mosquitos, and dragonflies.*

By CHARLES E. NIMMO, JR.

Have you often looked with envy at the magnificent photographs that appear in nature magazines and books and wished that you could produce similar results? If so, why not become a nature photographer?

While it is true that most of us will never have an opportunity to visit exotic, foreign lands and photograph spectacular subjects, just about anyone who owns a camera and has an appreciation of nature can make interesting pictures.

As one amateur to another, I would like to pass along some suggestions based on my own successes and failures and I hope they may help you.

Be Prepared

This rule is essential for the would-be nature photographer. Before beginning you should read and completely understand the instruction manual that came with your camera. Although this sounds elementary, it is surprising how many people do not understand the operation of their camera. Be able to identify each part and know what it does and how it works. Practice picture taking with the camera unloaded until the entire operation feels natural and comfortable.

Next, keep your camera loaded with film and ready for action. This, of course, means carrying it along with you when there is the slightest possibility that you will want to use it. I have missed some great pictures simply because I left my camera at home.

Once when visiting Jamestown Island, I came upon a pileated woodpecker chiselling holes in a tree trunk. He was less than 20 feet away and beautifully spotlighted in the morning sun. Without a camera, I watched helplessly for several minutes until he sensed my presence and flew away. A week later, I returned with camera in hand hoping to find the big bird at the same spot. No such luck. In frustration I took a picture of the tree trunk punctuated with neatly drilled holes. It is my constant reminder to keep prepared.

Be Realistic

Sometimes the most difficult problem is deciding what to photograph. There is a tendency to think of nature in a grandiose way and hence to conclude that only unusual or rare subjects are worthy of photographic interpetation.

This is erroneous thinking. Nature includes everything from birds to berries, mountains to mushrooms and squirrels to sunsets. In short, nature is the external world excluding man-made objects.

Begin picture taking around your home and see how many subjects are available just outside your door. Learn to think small. Look closely at individual trees, leaves, flowers, spider webs, insects, birds, clouds, and rocks. You will find many things to capture on film.

Be Imaginative

A single, colorful leaf can convey the essence of autumn or snow on a holly branch can signify the first winter blizzard.

Don't include too much in one picture but rather isolate a single item of interest. Examine it closely from every angle and see how the light strikes it. When you find a suitable position, look carefully through the viewfinder of the camera. Make sure the background behind the subject is not cluttered up and distracting. If your camera takes rectangular pictures, see if the subject looks better in a horizontal or vertical format.

And don't forget — move in close to the subject and exclude everything that is extraneous. Many cameras can be fitted with an inexpensive, close-up attachment that will magnify small objects. Another way to achieve the effect of closeness is to have enlargements made of your more successful photos.

Be bold and experiment. Take more than one picture of a really interesting subject. Try different lighting effects. Dramatic silhouettes can be made when the light source is directly behind the subject. Side lighting is very effective in emphasizing surface textures such as animal fur or tree bark.

One other word about lighting. Take some pictures on hazy days, in early morning fog or in rainy weather. You may be pleased with the soft, subtle colors and the

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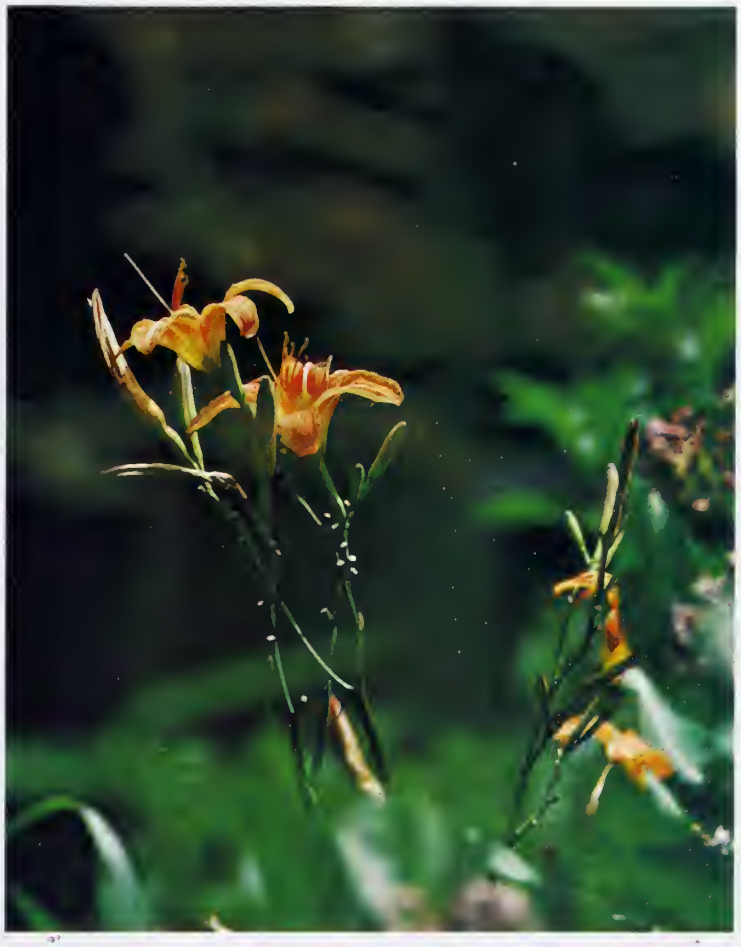
Photo White



lack of harsh shadows that often spoil many snapshots taken in the bright sun.

Be Patient

The successful nature photographer must have patience. It is often time consuming and frustrating to wait for all aspects of the picture to be just right before snapping the camera shutter. Don't hurry. Timing is extremely important.

Be Alert

When all the pieces seem to be in place—light, composition, pose — take the picture quickly. As a matter of fact, there will be instances when you cannot wait for everything to be just right. If you hesitate too long, the picture may be gone.

For example, one time while I was walking along the wilderness road around Jamestown Island I was suddenly surprised to see a raccoon walking directly toward me. I raised my camera and began to focus as he moved closer — 25 feet, 20, 15, 10. When was he going to stop? He never did. Like a bolt of lightning, he darted off into the woods. I felt very stupid standing there never having snapped a picture.

Be Critical

Be a tough self-critic and carefully analyze the pictures you have taken. Look very closely at those which did not turn out well because you can learn much from them. What did you do wrong? How could the picture have been improved? How will you correct the errors next time? Answering such questions will help you to make better photographs in the future.

Be Informed

As you become more involved in nature photography and strive to take the best possible pictures, you will soon realize that your present knowledge is limited. Become a student of both nature and photography. Seek additional information at your local library or at a camera store that sells magazines and books. There is an abundance of information available. The better informed you are, the better your pictures will be.

Be Persistent

Don't become discouraged if your photographic efforts are not always successful. Even experienced professionals have their share of failures. Take pictures and more pictures. Your photographs will greatly improve in quality as you gain more knowledge, confidence and experience. Now it's up to you. Get out your camera, load it up and lots of luck.

**NOTICE TO PHOTOGRAPHERS**

Virginia Wildlife Photo Contest

See page 33 for details

# Wildlife

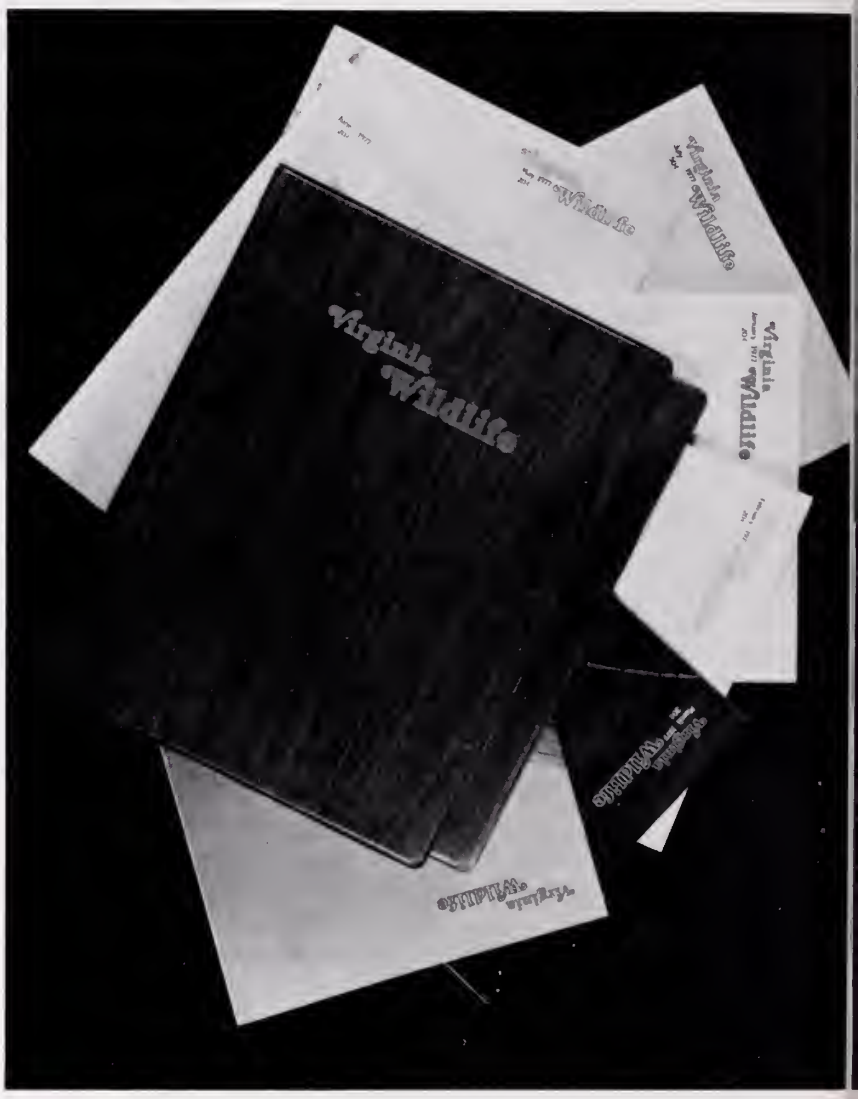
Edited by Mel White

## CROW BALL!

*One of our readers sent us these pictures of a tame crow.*

*Who likes to play ball with a pair of labrador retrievers--*

*until the dogs start to win, that is, then he takes his ball and goes home!*

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Please make all checks payable to "Treasurer of Virginia."

# Kaleidoscope

## Virginia Wildlife

SEND US YOUR FAVORITE OUTDOOR PHOTO
IN ONE OR MORE OF THESE CATEGORIES:

(1) NATURE
(2) PEOPLE IN THE OUTDOORS
(3) VIRGINIA'S WILDLIFE

PHOTO CONTEST

The first category will include scenes, still lifes, abstractions and other spectacular glimpses of nature. *People in the Outdoors* will include persons enjoying any of the normal outdoor pursuits including just appreciating nature. *Virginia's Wildlife* includes any native species in any Virginia setting.

Prizes will be $50 for first place, $30 for second and $20 for third in each category. Additional $10 honorable mention prizes will be awarded at the discretion of the judges. *Virginia Wildlife* reserves the right to publish any of the winning photos on its pages. All entries will be returned. Entries must be 35mm or larger transparencies or 8 x 10 prints.

Send entries to Wildlife Photo Contest
P.O. Box 11104
Richmond, Virginia 23230

CONTEST DEADLINE—JANUARY 15, 1978

## Crow Shooting In Bermuda

By DWIGHT R. CHAMBERLAIN

Whoever heard of going to Bermuda to hunt crows? But they say anything can happen in the "Bermuda Triangle!"

During the fall of 1974, complaints from farmers in Bermuda about increasing crop damage by crows led to a mandate from the Board of Works and Agriculture to undertake a control program. Specifically, watermelons, tomatoes, and pecans were damaged during the preceding growing season. I was privileged to be asked by Mr. David B. Wingate, Conservation Officer for the Bermuda Department of Agriculture and Fisheries, to help implement the program.

Mr. Wingate and I used manual calls to decoy the crows to mounted owls within shotgun range. The birds were shot on the wing from concealed positions while they "mobbed" the owls. As there was a ban on firearms in Bermuda except by special permit, this technique was particularly effective. We are grateful to the Bermuda Police who issued us firearm permits and provided marksmen and shotgun shells for several hunts. The initial program (30 October-8 November 1974; 21 February-4 March 1975) accounted for approximately 250 crows from an estimated population of 450 birds. An additional effort (16-20 January 1977) yielded 26 crows which reduced the population to a level acceptable to the Bermuda Government.

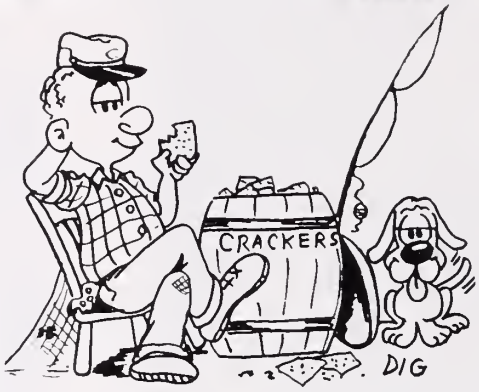
The crows are being processed for stomach contents, taxonomic status, and vital statistics information. Preliminary findings revealed that ripe berries of fiddlewood, allspice, cedar, and bay grape; waste grains; garbage; carrion; snails; beetles; caterpillars; crabs and other inter-tidal organisms; house mice; small birds; fruits; nuts; and vegetable crops were the major fall-winter foods consumed.

A recent sample (1977) of crows collected consisted of approximately 39% immatures, whereas the earlier collection (1974-75) was comprised of about 20% immatures. Perhaps the crows are compensating for the heavy hunting mortality sustained during 1974-75 by increasing their reproduction.

Another trip to Bermuda?

# IT APPEARS TO ME

## BY CURLY




. . . .A PERSON OUGHT TO HAVE ONE!

"Forest Management and Wildlife" is the main topic covered in a recent issue of *Green America* published by the American Forest Institute. The article explains the progress made in bolstering wildlife populations both by the wildlife managers in public agencies and in the forest industry. Free copies of this issue are available from American Forest Institute, 1619 Massachusette Ave. N.W. Washington, D. C. 20036.

Those of you that are interested in trails, hiking and the activities related thereto should be aware of the fact that some of your so-inclined friends have scheduled a "get-together." The NATIONAL TRAILS SYMPOSIUM for 1977 is now set to come off at Lake Junaluska, North Carolina during the period of September 8-10, 1977. More information is available from National Trails Council Chairman William S. Nemec, P.O. Box 1042, St. Charles, Ill.

Not long ago I was shopping in one of the larger grocery chain stores and it came to my attention that those folks have our interests at heart. It seems that they have published a series of '"Consumer Guides" which are aimed at educating us (eater-buyers) about the purchase and cooking of meats, seafoods and many other comsumables. Reading these handy little pamphlets take the mystery out of both the purchasing and preparing of a large variety of foods. They will make a welcome addition to your collection of recipes. . . and they are free at any Giant Food store.

. . . AND FOR YOUR BOOKSHELF

Now that we are approaching the shallow part of summer it could be about time to think about the reading you plan to do this fall. *Autumn Hawk Flights* written by Donald S. Heintzelman is certainly worthy of consideration. This 397 pagers is hard-backed and packed full of some interesting facts, pictures, and details about Hawk flights and migrations in Eastern North America. One of the three sections of the book is devoted to the identification of exceptionally important Central American sites where interested persons go to observe these facinating birds. Of particular interest is the part written by Virginia Game Commission Biologist Max Carpenter as he describes Hawk flights over Reddish Knob and migrations on Shenandoah Mountain in the Commonwealth. Published by Rutgers University Press, 30 College Ave., Brunswick, N.J. 08903. The book sells for $17.50.

Doubleday and Company has recently published something that I consider to be most timely, what with all the unusual weather that has been passing through our area. *The Riddle of the Winds* gives the reader more than just a peek at what and why certain things happen in relation to wind. Written by W. S. Kals, who has authored books about boating and navigation, this dandy item actually takes the riddle out of such things as tornadoes and delves into the subject of wind power to mention only two of the many fasinating facets of the elusive wind which are covered in the book. Hard-covered it sells for $7.95.

. . . .AND THEN

One of the savvy-est fellers I know opened my eyes the other day with a household tip that apparently comes from way back. Now this friend claims that although he is fussy about keeping a neat house, he always makes it a point to leave at least one spider-web in his bedroom. He claims that even when the mosquito season is at its worst he never has any problems. . ."but them skeeters do" for you see they get to buzzing around hungry-like until they fly into that ole web and Mr. Spider's got him a meal.

As a concerned citizen you will be pleased to know that someone has finally written and published a book which gives pointers, guidance and tips about how to get at the core of environmental issues. THE UNFINISHED AGENDA: THE CITIZENS POLICY GUIDE TO ENVIRONMENTAL ISSUES has something for the private sector as well as leaders in governmental policy making business. The paper back copy costs $3.95 and the hardbound, $7.95 from Thomas Crowell, Inc. 665 5th Aven., New York, New York 10019.

# Growing Up Outdoors

Edited by Gail Hackman

## THE DISCOVERY

"Hey, Brenda, I'm bored," said Steve as he came into the den and flopped down into the easy chair.

"Yeah, me too," said Brenda. "I hate this TV show. I've seen it a hundred times."

"Let's walk down to the store and buy a couple of ice cream cones."

"Hey, not a bad idea. Let's tell mom where we're going and get on the road."

A few minutes later the two young adventurers were walking along the shoulder of the road in the grass.

"What's that thing up ahead, Steve?" asked Brenda pointing to a large object blocking their way in the grass.

"I don't know," answered Steve. "I think it's a dead deer. We're supposed to do something, but I can't remember what. Let's cut across this field and stop by Grandpa Hooty's house and ask him."

The two ran through the field and were soon near the little old house where Grandpa Hooty lived. The elderly man greeted them with a wave of his arm as he stooped in his garden, weeding.

"Grandpa Hooty," said Steve. "We saw a dead deer by the side of the road. What should we do?"

"Well," said Hooty, creaking to his feet and walking toward them. "What should have been done wasn't, so we'll have to take it from here. Let's go inside and I'll call the county Game Warden. He'll do what is necessary."

Grandpa Hooty was as good as his word. After identifying himself and the animal's location, the Game Warden agreed to take care of the problem, and thanked Grandpa Hooty for his concern.

Grandpa Hooty hung up and turned to the two children, "You see," he said, "the driver of the vehicle who hit the deer should have done this. He could have called the Game Warden, a magistrate or a district judge. Then, whoever he called would have come to the location, given the person a special game tag for the animal so it would be legally his, and the driver could have taken the animal home and used it for food.

If the person who hit the animal didn't want it the Game Warden or whoever he contacted would have made sure that the meat from the animal was properly disposed of. Of course, this deer is beyond help and will simply have to be taken away and destroyed.

"And now," said Grandpa Hooty, "Since you were on your way to the store for ice cream, how about if I come along with you. I could stand some refreshment."

# Let's Pick Elderberries

By MARJORIE LATHAM MASSELIN

The elder or elderberry belongs to the honeysuckle family, and is a native shrub that ranges over most of North America east of the Rockies. The name elder derives from the Anglo-Saxon *ellen* which means "fire-kindler," an altogether sensible nickname since the major stems of the shrub are very dry and brittle. Along about May or June the plant is covered with flat-topped clusters of small white flowers. These are followed by edible berries which ripen to a dark purple the first part of August and which bend the slender stems with their weight. The leaf is divided into five to eleven finely saw-toothed leaflets.

The early colonists, like the Indians, brewed the leaves for tea and used the fruit for making wine, jelly and pies. The woody stems which readily lose their white pith were a favorite with little boys for making whistles and popguns, and with their fathers for making spiles to tap sugar maples. The inner bark was sometimes boiled and used as a toothache poultice. The dried fruits make a sort of "Poor Man's Currant" which, in lean days no doubt, found their way into currant buns and fruit cakes.

Taken by themselves the berries are sickishly sweet, and most modern recipes recommend using lemon juice with them to both bring out their flavor and relieve the natural sweetness, but in olden times lemons were not always available and expensive at best when they were. Housewives have always shown an aptitude for using what was readily and cheaply at hand, and in August when the elderberries are ripe and ready so are the first sour green apples. Consequently, the older recipes advise combining the elderberries with green apples. In jelly making, this has the added virtue of supplying natural pectin, the substance that makes jelly jell.

Elderberry Jelly

A good rule of thumb to follow is to weigh the fruit before you start, because one pound of fruit will yield about one cup of juice. Three pounds of fruit is a nice manageable quantity to start with. Wash the berry clusters before pulling them from the stems. Crush the berries and start heating them very gently until the juice begins to flow. Then cover the pan and keep the heat low so that they cook primarily by the steam condensing on the inside of the cover, thereby creating more liquid to keep them simmering. This takes about 15-20 minutes.

Put the cooked elderberries in a cloth bag and squeeze out the juice. Measure it and add one cup of sugar for each cup of juice. To this add the strained juice of a lemon. Taste and if you think you would prefer a little more tartness, add more lemon juice experimentally until you get the desired result. Bring the juice to a full boil and stir in a half bottle of commercial pectin. Keep the full rolling boil for a minute or until the jelly sheets from the spoon so that the last drop hangs on the edge of the spoon. Pour into sterilized glasses and seal with paraffin.

The pectin manufacturers will tell you to use twice that amount of their product, but that will give you a jelly that bounces off the bread. We like it to hold its shape, but really it should not be rubbery.

Canning is a mess no matter how you look at it. I think anyone who engages in it seriously does so because of a love for the land and a real sense of the history of this nation. Probably the greatest drawback to getting up an interest in hauling all the equipment canning requires and getting it set up in the kitchen, is the fact that it always has to be done in the hottest part of summer, and even in an air-conditioned kitchen one really has to believe in "The Grasshopper and the Ant" theory to do it. But there are other things to be done with elderberries and other "wild" fruits which enable one to use and enjoy them in season. Pies or tarts are one way to do this. They make use of a more limited supply than the jelly maker requires, and they are such good old country recipes that they may inspire you to develop a greater interest in canning later on.

## RECIPES

Elderberry Pie I

1 cup elderberries, washed and stemmed
2 tbl flour
1 cup sugar
1 cup sour cream (the commercial kind is all right)

Blend flour, sugar and cream. Fold in berries. Pour into 9-inch, pastry lined pie pan. Cover with lattice crust. Bake at 400 degrees for about 35 to 40 minutes or until crust is brown and filling is "set." Let cool before cutting.

Elderberry Pie II

2 cups elderberries
1½ cups sour green apples, peeled, cored and chopped

*Photo by Knuth — Color by Moushey*

1 tbl flour
2 tbl butter
1 cup sugar

Wash berries and pull from stems. Mix flour and butter to "crumbs" and blend into sugar. Combine mixture with the fruits and toss it all together with a spoon until fruits are well coated and berries slightly crushed. Spoon into a pastry-lined pan and cover with a lattice crust. Base as above.

Elderberry Soup
1 lb fully ripe elderberries, washed and stemmed
1 qt water
Piece of lemon peel (yellow part only)
3-4 tbl minute tapioca
1-2 tbl lemon juice
Sugar to taste

After preparing fruit, add water and lemon peel, cover and cook until berries are tender. Rub through a fine sieve. Add other ingredients, and, stirring continually, cover over low heat until tapioca is "clear" and juice has thickened somewhat. It will thicken more as it cools. Pour into a pretty bowl and sprinkle sugar over top to prevent "skin" from forming. Chill. Serve cold with thick or whipped cream.

About one-half pound of tart apples can be used instead of lemon. Cook peeled, sliced apples with berries and puree.

"In Natures Garden"

# The Rose Pink

By ELIZABETH MURRAY

Illustrated by Lucile Walton

Gentian is a word which usually conjures up for me the color blue and the country Switzerland. The genus *Gentiana* is a large one and contains those exciting and intensely blue flowers which one finds in the Alps and other mountain regions. But in North America we have another important genus, *Sabatia*, which also belongs to the gentian family, Gentianaceae, and in which the flowers are nearly always pink, occasionally lilac or white.

*Sabatia angularis*, the marsh or rose pink, sometimes called the bitterroot, has a wide distribution from Connecticut to Michigan and Kansas, and south to Florida and Texas, although within that distribution it occurs only sporadically and is sometimes hard to locate. It likes good, moist soil, and grows at the edges of peaty woods and in low lying damp, rich meadows. The plant has a rather tough, erect stem, usually branching twice at every axil so that the terminal flowers form a sort of loose cyme. There are five petals united at the base into a tube as with all members of the family. There are also five sepals and the same number of stamens. The style is rather long and divided at the tip. The ovary is superior forming eventually a 2-valved capsular fruit. The petals are usually a beautiful rose-pink hence the common name, with a greenish center. The flower blooms in late summer, July and August.

In Massachussetts, other members of the genus *Sabatia* have been involved in a curious annual ritual based on a misunderstanding. At Plymouth, where *Sabatia* is particularly abundant, the flowers are called "rose of Plymouth" and were sold in the streets for the adornment of homes and especially churches. Local tradition in eastern Massachussetts derives the name from the word Sabbath and the legend is that the Pilgrims first saw the flower on the Sabbath and after that would have no other flower in their churches for midsummer decoration. The Pilgrims may well have seen the pinks on the Sabbath, and probably on other days of the week too, but the derivation is actually erroneous. The genus was dedicated to Liberato Sabbati, an eighteenth century Italian botanist.

The gentian family as a whole is a versatile group whose members are spread over a wide variety of habitats from the arctic to the equator and from high mountains to brackish pools and freshwater marshes at sea level. They are mostly herbs, although a few are shrubby, and they are usually perennials. Many members of the family contain a bitter principle with medicinal properties. *Gentiana lutea* is the main European species from which druggists obtained their pharmaceutical 'gentian-root' which was used as a bitter tonic but is obsolete nowadays. Gentian violet, which is still used today for its antifungal action, is so called merely for its color. It is manufactured chemically and does not come from the plants. The genus is named for Gentius, king of Illyria who, according to Pliny, first discovered the medicinal properties of the plants.

*Sabatia* also contains a bitter principle, hence another of its common names, bitterroot, although as far as I know it has not been used medicinally. There are about a dozen species found in eastern North America, most of them blooming in mid- to late summer. Down in southwest Virginia near Blacksburg there is a little valley called Poverty Hollow which is anything but 'poor' in its flora. Along its banks in July and August there are magnificent clumps of rose pink, and it was from one of these that Miss Walton painted the picture which appears here.

# On The Waterfront

Edited by Jim Kerrick

## HOUSEBOATS

Houseboats aren't "river shanties" anymore. They're more like floating homes.

The houseboat still features the box-like cabin, big picture windows, open spaces inside, forward lounge and steering station and lots of head room. But other characteristics of the traditional houseboat are beginning to vanish.

You'll notice it first in the sharper prow. Today's houseboats are designed to go faster and through rougher water than their tubby ancestors of just a few years ago.

The rest of the hull is different too; instead of being bargelike displacement hulls, the new houseboats are planing hulls--Vees, cathedrals and true catamarans with much higher freeboards.

Power has been stepped up accordingly. Most new houseboats feature big V-drive inboard engines, in contrast to the smaller outboard or stern drive systems of a few years ago.

Other new features that boost the houseboat's seaworthiness are heavier, more substantial railings and windows of tempered, laminated or extra-strength plate glass.

Houseboat decor is aimed primarily at the woman. Boat designers have come up with more appealing interiors with plush carpeting, ultra modern dinettes, large bathrooms and modern living rooms.

Price is still a factor in deciding between a houseboat or a cruiser. You get "more for your money" in a houseboat. One of the largest houseboats made today costs about $89,000 for a 58-footer. For a name brand cruiser of the same length, the price is $300,000.

Why the difference in price? Cabin cruisers have more hull and less superstructure, and conventional hulls cost more to build. The houseboat's accommodations may be every bit as luxurious as a cruiser's, but they are located over the hull, not in it.

Though "blue water" capability in houseboats is growing, more major houseboat manufacturers suggest they be used close to shore. Many others are still building houseboats strictly for the inland water market. These latter still feature metal pontoon or barge hull and still boast a bargain price tag.

Houseboat sales are increasing annually. More than $34 million worth were sold in 1976. To find out why houseboats are so popular, see your houseboat dealer soon.

## RENT A HOUSEBOAT!

For families who are thinking of buying a houseboat but want to be sure they'll like it, rent one!

There are marina operators across the county who rent houseboats to families and friends who want to get away from it all but don't want to leave comfort behind and for those who can't decide which boat they really want.

It's great to rent a boat for a day, weekend, week or month (or longer). Rates are seasonal and depend on the size of the boat, the provisions supplied and, of course, the time involved. You can rent a 36-foot houseboat that sleeps six for seven days for about $400. Some rates are $50 a day for a 35-footer. All that's needed is food; sometimes you must bring your own linen and you're all set. You can also bring along your charcoal grill (and charcoal).

Renting a houseboat gives you great pluses--like the opportunity to cruise, fish, explore secluded coves, sunbathe comfortably on the rooftop, all on the same day. After you stock the boat with food and clothing, there's no need to stop again, unless you want to. You're renting more of a "house" than a boat.

Most houseboats are equipped with wall-to-wall carpeting, large windows with curtains, complete kitchen (galley) facilities, outdoor patio, with patio furniture and "heads." Rental agents usually provide pots and pans and complete dinnerware but check to make sure. Some houseboats are also equipped with a rowboat.

You don't have to worry if you've never operated a houseboat before either--most rental operators brief everyone on the operation of the houseboat (and on the waters you'll be using) and all boats are checked and cleaned after each renter.

Look in the classified section of your local newspaper for boat rental marinas. Boating publications are also a good source of information. Local marine dealers might also have information. State department of public information or Conservation Departments might provide listings of houseboat rental marinas.

The Boating Industry Associations has a partial listing of houseboat rentals. Write BIA, Public Service Department, 401 North Michigan Avenue, Chicago, IL 60611.

Houseboating is the ideal family vacation--try it!

# LIZARDS OF VIRGINIA

(1) GREEN ANOLE *(Anolis Carolinensis)*
(2) SIX-LINED RACERUNNER *(Cnemidophorus Sexlineatus)*
(3) EASTERN FIVE-LINED SKINK *(Eumeces Fasciatus)* Entire state except Eastern Shore
(4) SOUTHEASTERN FIVE-LINED SKINK *(Eumeces Inexpectatus)*
(5) BROAD-HEADED SKINK *(Eumeces Laticeps)* Entire state except Eastern Shore
(6) NORTHERN COAL SKINK *(Eumeces Anthracinus)*
(7) GROUND SKINK *(Lygosoma Laterale)* Entire State
(8) EASTERN SLENDER GRASS LIZARD *(Ophisaurus Attenuatus)*
(9) NORTHERN FENCE LIZARD *(Sceloporus Undulatus Hyacinthinus)* Entire State